



Phone: (360) 943-7325
 FAX: (360) 943-7026
 Homepage: www.cascadiaresearch.org

31 March 2006

Dwight E. Sanders
 California State Lands Commission
 100 Howe Avenue, Suite 100-South
 Sacramento, CA 95825

Dear Mr. Sanders:

I have reviewed the sections on cetaceans in the March 2006 revised draft EIR for the Cabrillo Port LNG. I focused on the section on "Special Status Species" under Section 4.7 relating to humpback and blue whales. These are two endangered large whale species that I have worked with extensively off the California coast and in the proposed project area.

Some of the material in the draft EIR attributed to Carretta et al. (2002) is in fact based on my work and publications. We have been conducting long-term photographic identification and monitoring of both humpback and blue whales off California since 1986. For both species we have over 1,500 different individuals identified from natural markings and which form the basis for abundance estimates and migratory movements of these two populations.

I disagree with the conclusion of the revised draft EIR that the occurrence of both species would be very unlikely near the project area. While it is true that some of the highest densities of blue whales occur along escarpments and not necessarily close to shore, it is not reasonable to infer from this that they would not occur near the project area. I know from our own observations and those of others that blue whale concentrations have sometimes occurred not far from the proposed site. This would indicate blue whale occurrence at or very near the project site should not be considered unlikely and in fact should be expected.

The document also implies that the proposed site is outside the typical habitat of especially blue whales because it is close to the mainland coast of southern California. We have sighted blue and humpback whales in waters not far from the proposed project area. There have also been sightings made by other boaters and even shore observers of blue and humpback whales not far from the project area including to the east (inshore). The proposed project area is actually in deeper water and closer to shore than many of the sightings we have made of humpback and blue whales off California. Therefore the implication that the proximity of the proposed site to shore puts it outside the typical habitat of either of these whale species is not accurate.

Please let me know if there is any additional information I can provide.

Sincerely,

John Calambokidis
 Research Biologist

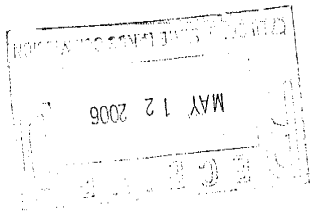
G206-1

Sightings of both blue and humpback whales off the coast of California are summarized in Section 4.7 and presented in detail in surveys cited in Carretta et al. (2002 and 2005), which are used as sources for Section 4.7.

The closest sightings of humpback whales made during these surveys appear to be off San Nicolas Island and north of the Santa Cruz Passage, between Santa Cruz and Santa Rosa islands. Such sightings lie a considerable distance from the proposed FSRU site. The closest sighting to the proposed FSRU site for blue whales appears to have been made off the mainland coast east of Anacapa and west of Malibu, which is also a considerable distance from the proposed FSRU site.

The sighting data from numerous surveys indicate that the area near the FSRU site has not been favored by either species. This does not suggest that the presence of such species near the FSRU site is impossible, but rather that such whales are not likely to be encountered close enough to the FSRU site to be adversely affected. However, other areas that may include potential LNG carrier routes, as noted in Section 4.7, may be favored by these species.

G206-1



CURRICULUM VITAE

John Calambokidis
April 2005

John Calambokidis, Research Biologist
Cascadia Research Collective
218½ West 4th Avenue
Olympia, WA 98501
Phone: (360)943-7325, FAX: (360)943-7026
email: Calambokidis@CascadiaResearch.org

PROFESSIONAL EXPERIENCE

Research Biologist: Founding member of Cascadia Research (non-profit tax-exempt org.). Served as Principal Investigator of more than 50 research studies on marine mammals, birds, and pollution (see below for examples). Wrote research proposals, conducted field research, analyzed data, and published research results for projects funded by government and private grants and contracts. Supervised staff of up to 20 researchers.
Cascadia Research Collective, September 1979 to present.

Examples of projects directed (see Cascadia Qualifications for more complete list):

- Served as Project Director/co-Chair of multi-million dollar international collaborative study of the status of humpback whales in the entire North Pacific (SPLASH) funded by NOAA Fisheries, National Marine Sanctuary Program, National Fish and Wildlife Foundation, Commission on Environmental Cooperation, and Pacific Life Foundation.
- Abundance and movements of humpback and blue whales off California using photo-ID for the Gulf of the Farallones, Monterey Bay, and Channel Islands National Marine Sanctuaries.
- Research on the reactions of marine mammals to air guns and mitigation during seismic surveys in Washington and British Columbia under contract to U.S. Geological Survey.
- Study of impact of low-frequency sound from the ATOC sound source on the occurrence, distribution, and behavior of marine mammals under contract to UC, Santa Cruz.
- Impacts of the US Navy LFA sound source on blue and fin whales off S California using aerial surveys and photo-ID for the Office of Naval Research (subcontract from Cornell)
- Population assessment of humpback and blue whales using mark-recapture of identified individuals off California, Oregon, and Washington for Southwest Fisheries Science Center.
- Harbor seal population size, impacts of human disturbance, and habitat requirements at Woodard Bay in Puget Sound, Washington for the Wa. Dept. of Natural Resources.
- Abundance and distribution of marine mammals in the Strait of Juan de Fuca with aerial and vessel surveys and impacts of underwater blasting for the Corps of Engineers.

Adjunct Faculty: Taught graduate level courses on the Biology of Marine Mammals for the Masters of Environmental Studies program at the Evergreen State College.
The Evergreen State College, Olympia, Wa. 98505. May 1989 to present.

Faculty: Developed and led a research and educational program for college students. Conducted research on vessel impact on harbor seals, biology and reproduction of harbor porpoise, and Canada goose behavior, in Glacier Bay, Alaska. Program is in cooperation with the National Park Service. Published research results in scientific journals.

School for Field Studies, Cambridge, MA 02139. June-August, 1981-83.

Biological Technician: Conducted research on the behavior of northern fur seals on the Pribilof Islands from June to October of two field seasons. Duties included censuses, monitoring behavior, and tagging animals.

National Marine Mammal Laboratory, 7600 Sand Point Way NE, Seattle, WA 98115. May 1978 to September 1979.

Project Director: Directed Student-Originated Study (SOS) research project funded by National Science Foundation on the biology of harbor seals and the levels and impacts of chlorinated hydrocarbon contaminants. Coordinated the activities of eight student researchers.

National Science Foundation through The Evergreen State College, Olympia, WA 98505. March 1977 to March 1978.

EDUCATION

B.S. 1977 (Biology), The Evergreen State College, Olympia, WA.

PUBLICATIONS (scientific journals and books)

Goldbogen, J.A., J. Calambokidis, R.E. Shadwick, E.M. Oleson, M.A. McDonald. In Press. Kinematics of diving and lunge-feeding in fin whales. Accepted in *Journal of Experimental Biology*.

Oleson, E.M., J. Calambokidis, W.C. Burgess, M.A. McDonald, C.A. LeDuc, and J.A. Hildebrand. In Press. Behavioral Context of Northeast Pacific Blue Whale Call Production. Provisionally accepted to *Marine Ecology Progress Series*.

May-Collado, L., T. Gerrodette, J. Calambokidis, K. Rasmussen, and I. Sereg. 2005. Patterns of cetacean sighting distribution in the Pacific Exclusive Economix Zone of Costa Rica, based on data collected from 1979-2001. *Rev. Biol Trop. (int. J. Trop. Biol.)* 53: 249-263

Calambokidis, J., G.H. Steiger, D.K. Ellifrit, B.L. Troutman and C.E. Bowlby. 2004. Distribution and abundance of humpback whales and other marine mammals off the northern Washington coast. *Fisheries Bulletin* 102(4):563-580.

Calambokidis, J. and J. Barlow. 2004. Abundance of blue and humpback whales in the eastern North Pacific estimated by capture-recapture and line-transect methods. *Marine Mammal Science* 20(1):63-85.

Krahn, M.M., D.P. Herman, G.M. Ylitalo, C.A. Sloan, D.G. Burrows, R.C. Hobbs, B.A. Mahoney, G.K. Yanagida, J. Calambokidis, and S.E. Moore. 2004. Stratification of lipids, fatty acids and organochlorine contaminants in blubber of white whales and killer whales. *Journal of Cetacean Research and Management* 6(2):

- Norman, S.A., C.E. Bowlby, M.S. Brancato, J. Calambokidis, D. Duffield, P.J. Gearin, T.A. Gornall, M.E. Gosho, B. Hanson, J. Hodder, S.J. Jeffries, B. Lagerquist, D.M. Lambourn, B. Mate, B. Norberg, R.W. Osborne, J.A. Rash, S. Riemer and J. Scordino. 2004. Cetacean strandings in Oregon and Washington between 1930 and 2002. *Journal of Cetacean Research and Management* 6(1):87-99.
- Ross, P.S., S. Jeffries, M. Yunker, R.F. Addison, M.G. Ikononou and J. Calambokidis. 2003. Harbour seals (*Phoca vitulina*) in British Columbia, Canada, and Washington State, USA, reveal a combination of local and global PCB, PCDD and PCDF signals. *Environ. Toxicol. Chem.*, 23(1), 157-165.
- Jeffries, S., H. Huber, J. Calambokidis and J. Laake. 2003. Trends and status of harbor seals in Washington State: 1978-1999. *Journal of Wildlife Management* 67(1):201-219.
- Calambokidis, J., J.D. Darling, V. Deecke, P. Gearin, M. Gosho, W. Megill, C.M. Tombach, D. Goley, C. Toropova, and B. Gisborne. 2002. Abundance, range and movements of a feeding aggregation of gray whales (*Eschrichtius robustus*) from California to southeastern Alaska in 1998. *J. Cetacean Res. Manage.* 4(3):267-276.
- Calambokidis, J., G.H. Steiger, J.M. Straley, L.M. Herman, S. Cerchio, D.R. Salden, J. Urbán R., J.K. Jacobsen, O. von Ziegesar, K.C. Balcomb, C.M. Gabriele, M.E. Dahlheim, S. Uchida, G. Ellis, Y. Miyamura, P. Ladrón de Guevara P., M. Yamaguchi, F. Sato, S.A. Mizroch, L. Schlender, K. Rasmussen, J. Barlow and T.J. Quinn II. 2001. Movements and population structure of humpback whales in the North Pacific. *Marine Mammal Science* 17(4):769-794.
- Krahn, M.M., G.M. Ylitalo, D.G. Burrows, J. Calambokidis, S.E. Moore, M. Gosho, P. Gearin, P.D. Plesha, R.L. Brownell, Jr., S.A. Blokhin, K.L. Tilbury, T. Rowles and J.E. Stein. 2001. Organochlorine contaminant concentrations and lipid profiles in eastern North Pacific gray whales (*Eschrichtius robustus*). *J. Cetacean Res. Manage.* 3(1):19-29.
- McDonald, M.A., J. Calambokidis, A.M. Teranishi, and J.A. Hildebrand. 2001. Acoustic Behavior of Individual Blue Whales off California. *Journal of the Acoustical Society of America* 109:1728-1735
- Williams, T.M., R.W. Davis, L.A. Fuiman, J. Francis, B.J. Le Boeuf, M. Horning, J. Calambokidis, and D.A. Croll. 2000. Energy conservation in diving marine mammals. *Science* 288:133-136
- Steiger, G.H. and J. Calambokidis. 2000. Reproductive rates of humpback whales off California. *Marine Mammal Science* 16:220-239.
- Calambokidis, J., G.H. Steiger, K. Rasmussen, J. Urbán R., K.C. Balcomb, P. Ladrón de Guevara P., M. Salinas Z., J.K. Jacobsen, C.S. Baker, L.M. Herman, S. Cerchio and J.D. Darling. 2000. Migratory destinations of humpback whales that feed off California, Oregon and Washington. *Marine Ecology Progress Series* 192:295-304.
- Mate, B.R., B.A. Lagerquist, and J. Calambokidis. 1999. Movements of North Pacific blue whales during the feeding season off southern California and southern fall migration. *Marine Mammal Science* 15:1246-1257.
- Baker, C.S., L. Medrano-Gonzalez, J. Calambokidis, A. Perry, F. Pichler, H. Rosenbaum, J. M. Straley, J. Urban-Ramirez, M. Yamaguchi, and O. von Ziegesar. 1998. Population structure of nuclear and mitochondrial DNA variation among humpback whales in the North Pacific. *Molecular Ecology* 3:313-327.
- Calambokidis, J. 1997. Humpback whales and the California - Costa Rica connection. Whales. *Journal of the Oceanic Society*. Fall 1997: 4-10.

- Calambokidis, J. and G.H. Steiger. 1997. Blue Whales. Worldlife Series Library. Voyager Press, Stillwater, MN.
- Laake, J.L., J. Calambokidis, S.D. Osmek, and D.J. Rugh. 1997. Probability of detecting harbor porpoise from aerial surveys: estimating g(0). *Journal of Wildlife Management* 61:63-75.
- Darling, J.D., J. Calambokidis, K.C. Balcomb, P. Bloedel, K.R. Flynn, A. Mochizuki, K. Mori, F. Sato, H. Suganuma, and M. Yamaguchi. *Marine Mammal Science* 12:281-287.
- Calambokidis, J., G.H. Steiger, J.R. Evenson, K.R. Flynn, K.C. Balcomb, D.E. Claridge, P. Bloedel, J.M. Straley, C.S. Baker, O. von Ziegesar, M.E. Dahlheim, J.M. Waite, J.D. Darling, G. Ellis, and G.A. Green. 1996. Interchange and isolation of humpback whales off California and other North Pacific feeding grounds. *Marine Mammal Science* 12:215-226.
- Hong, S.-W., J. Calambokidis, B. Bush, G.H. Steiger, and S. Shaw. 1996. Polychlorinated biphenyls and organochlorine pesticides in harbor seal pups from the inland waters of Washington State. *Environmental Science and Technology* 30:837-844.
- Baker, C.S., R.W. Slade, J.L. Bannister, R.B. Abernathy, M.T. Weinrich, J. Lien, J. Urbán, P. Cockeron, J. Calambokidis, O. Vasquez, and S.R. Palumbi. 1994. Hierarchical structure of mitochondrial DNA gene flow among humpback whales *Megaptera novaeangliae*, world-wide. *Molecular Ecology* 3:313-327.
- Baker, C.S., D.A. Gilbert, M.T. Weinrich, R. Lambertsen, J. Calambokidis, B. McArdle, G.K. Chambers, and S.J. O'Brien. 1993. Population characteristics of DNA fingerprints in humpback whales (*Megaptera novaeangliae*). *Journal of Heredity* 84:281-290.
- Baker, C.S., A. Perry, J.L. Bannister, M.T. Weinrich, R.B. Abernathy, J. Calambokidis, J. Lien, R.H. Lamberton, J. Urban Ramirez, O. Vasquez, P.J. Clapham, A. Ailing, S.J. O'Brien, and S.R. Palumbi. 1993. Abundant mitochondrial DNA variation and world-wide population structure in humpback whales. *Proceedings of the National Academy of Science* 90:8239-8243.
- Calambokidis, J., J.R. Evenson, T.E. Chandler, and G.H. Steiger. 1992. Individual identification of gray whales in Puget Sound in 1991. *Puget Sound Notes* 28:1-4
- Calambokidis, J. 1992. Gray whale deaths in Puget Sound: A perspective. *Puget Sound Notes* 28:5-7
- Speich, S.M., J. Calambokidis, D.W. Shea, J. Peard, M. Whitter, and D.M. Fry. 1992. Eggshell thinning and organochlorine contaminants in western Washington waterbirds. *Colonial Waterbirds* 15:103-112.
- Steiger, G.H., J. Calambokidis, R. Sears, K.C. Balcomb, and J.C. Cubbage. 1991. Movement of humpback whales between California and Costa Rica. *Marine Mammal Science* 7:306-310.
- Baker, C.S., R.H. Lamberton, M.T. Weinrich, J. Calambokidis, G. Early, and S.J. O'Brien. 1991. Molecular genetic identification of the sex of humpback whales (*Megaptera novaeangliae*). R. Hoelzel (ed.) in Genetic Ecology of Cetaceans. *Report of the International Whaling Commission* (special issue 13):105-111.
- Calambokidis, J., J.C. Cubbage, G.H. Steiger, K.C. Balcomb, and P. Bloedel. 1990. Population estimates of humpback whales in the Gulf of the Farallones, California. *Report to the International Whaling Commission* (special issue 12):325-333.

- Calambokidis, J., G.H. Steiger, J.C. Cubbage, K.C. Balcomb, C. Ewald, S. Kruse, R. Wells, and R. Sears. 1990. Sightings and movements of blue whales off central California 1986-88 from photo-identification of individuals. *Report of the International Whaling Commission* (special issue 12):343-348.
- Baker, C.S., S.R. Palumbi, R.H. Lambertson, M.T. Weinrich, J. Calambokidis, and S.J. O'Brien. 1990. Influence of seasonal migration on geographic distribution of mitochondrial DNA haplotypes in humpback whales. *Nature, London* 344:238-240.
- Calambokidis, J. and G.H. Steiger. 1990. Sightings and movements of humpback whales in Puget Sound, Washington. *Northwestern Naturalist* 71:45-49.
- Steiger, G.H., J. Calambokidis, J.C. Cubbage, D.E. Skilling, A.W. Smith, and D.H. Gribble. 1989. Mortality of harbor seal pups at different sites in the inland waters of Washington. *Journal of Wildlife Diseases* 25:319-328.
- Joyce, G.G., N. Oien, J. Calambokidis, and J.C. Cubbage. 1989. Surfacing rates of minke whales in Norwegian waters. *Report of the International Whaling Commission* 39:431-434.
- Reed, M., D.P. French, J. Calambokidis, and J. Cubbage. 1989. Simulation modelling of the effects of oil spills on population dynamics of northern fur seals. *Ecological Modelling* 49:49-71.
- Oritsland, T., N. Oien, J. Calambokidis, I. Christensen, J.C. Cubbage, S. Hartvedt, P.M. Jensen, G.G. Joyce, K. Tellnes, and B.L. Troutman. 1989. Norwegian whale sightings surveys in the North Atlantic, 1987. *Report of the International Whaling Commission* 39:411-415.
- French, D.P., M. Reed, J. Calambokidis, and J. Cubbage. 1989. A simulation of seasonal migration and daily movements of the northern fur seal. *Ecological Modeling* 48:193-219.
- Osborne, R., J. Calambokidis, and E.M. Dorsey. 1988. A guide to marine mammals of Greater Puget Sound. Anacortes, Wa: Island Publishers. 191pp.
- Calambokidis, J., B.L. Taylor, S.D. Carter, G.H. Steiger, P.K. Dawson, and L.D. Antrim. 1987. Distribution and haul-out behavior of harbor seals in Glacier Bay, Alaska. *Canadian Journal of Zoology* 65:1391- 1396.
- Cubbage, J.C. and J. Calambokidis. 1987. Bowhead whale segregation by size class on summering grounds as determined through aerial stereophotogrammetry. *Marine Mammal Science* 3:179-185.
- Steiger, G.H. and J. Calambokidis. 1986. California and northern sea lions in southern Puget Sound, Washington. *Murrelet* 67:93-96.
- Calambokidis, J. and G. H. Steiger. 1985. Bald eagles feeding on harbor seal placenta in Glacier Bay, Alaska. *Journal of Raptor Research* 19:145.
- Calambokidis, J. and R.L. Gentry. 1985. Mortality of known history fur seal pups. *Journal of Wildlife Diseases* 21:327-330.
- Calambokidis, J. 1980. The biology of Washington State harbor seals. *Cetus* 2(3):4
- Calambokidis, J., J. Mowrer, M.W. Beug, and S.G. Herman. 1979. Selective retention of polychlorinated biphenyl components in the mussel, *Mytilus edulis*. *Archives of Environmental Contamination and Toxicology* 8:299-308.

Calambokidis, J.A., R.E. Everitt, J.C. Cabbage, and S.D. Carter. 1979. Harbor seal census for the inland waters of Washington, 1977-1978. *Murrelet* 80: 110-112.

Mowrer, J., J. Calambokidis, N. Musgrove, B. Drager, M.W. Beug, and S.G. Herman. 1977. Polychlorinated biphenyls in cottids, mussels, and sediment in Southern Puget Sound, Washington. *Bulletin of Environmental Contamination and Toxicology* 18:588-594.

Government reports and publications

Calambokidis, J., T. Chandler, E. Falcone, and A. Douglas. 2004. Research on large whales off California, Oregon, and Washington: Annual report for 2003. Final report to Southwest Fisheries Science Center, La Jolla, CA. Cascadia Research, 218½ W Fourth Ave., Olympia, WA 98501. 48pp

Chandler, T.E. and J. Calambokidis. 2004. Costa Rica Dome blue whale cruise report. Unpublished report, Available from Cascadia Research (www.cascadiaresearch.org). 6 pp.

Rasmussen, K., J. Calambokidis, and G.H. Steiger. 2004. Humpback whales and other marine mammals off Costa Rica and surrounding waters, 1996-2003. Report of the Oceanic Society 2002 field season in cooperation with Elderhostel volunteers. Cascadia Research, 218½ W Fourth Ave., Olympia, WA 98501. 23pp

Calambokidis, J., T. Chandler, L. Schlender, G.H. Steiger, and A. Douglas. 2003. Research on humpback and blue whales off California, Oregon, and Washington in 2002. Final report to Southwest Fisheries Science Center, La Jolla, CA. Cascadia Research, 218½ W Fourth Ave., Olympia, WA 98501. 47pp

Calambokidis, J., R. Lumper, M. Gosho, P. Gearin, J.D. Darling, W. Megill, D. Goley, B. Gisborne, and B. Kopach. 2003. Gray whale photographic identification in 2002: Collaborative research in the Pacific Northwest. Report to the National Marine Mammal Laboratory, Seattle, WA. Cascadia Research, 218½ W Fourth Ave., Olympia, WA 98501. 19pp

Calambokidis, J. 2003. Underwater behavior of blue whales examined with suction-cup attached tags. Annual Report to Office of Naval Research for Grant Number: N00014-02-1-0849. 6pp

Rasmussen, K., J. Calambokidis, and G.H. Steiger. 2002. Humpback whales and other marine mammals off Costa Rica and surrounding waters, 1996-2002. Report of the Oceanic Society 2002 field season in cooperation with Elderhostel volunteers. Cascadia Research, 218½ W Fourth Ave., Olympia, WA 98501. 32pp

Sears, R., and J. Calambokidis. 2002. Update COSEWIC status report on the blue whale *Balaenoptera musculus* in Canada. in COSEWIC assessment and update status report on the blue whale *Balaenoptera musculus* in Canada. Committee on the Status of Endangered Wildlife in Canada, Environment Canada, Ottawa, ON. K1A 0H3. 1-32 pp.

Calambokidis, J., T. Chandler, and A. Douglas. 2002. Marine mammal observations and mitigation associated with USGS seismic-reflection surveys in the Santa Barbara Channel 2002. Report to U.S. Geological Survey, Menlo Park, CA. Cascadia Research, 218½ W Fourth Ave., Olympia, WA 98501. 30pp

Calambokidis, J., T. Chandler, L. Schlender, K. Rasmussen, and G.H. Steiger. 2002. Research on humpback and blue whales off California, Oregon, and Washington in 2001. Final report to Southwest Fisheries Science Center, La Jolla, CA. Cascadia Research, 218½ W Fourth Ave., Olympia, WA 98501. 50pp

Calambokidis, J. 2002. Underwater Behavior of Blue Whales Using a Suction-cup Attached CRITTERCAM. Final Technical Report to Office of Naval Research for Grant Number: N00014-00-1-0942. 7pp

- Calambokidis, J., M. Gosho, P. Gearin, J.D. Darling, W. Megill, M. Heath, D. Goley, and B. Gisborne. 2002. Gray whale photographic identification in 2001: Collaborative research in the Pacific Northwest. Report to the National Marine Mammal Laboratory, Seattle, WA. Cascadia Research, 218½ W Fourth Ave., Olympia, WA 98501. 19pp
- Calambokidis, J., J. Francis, G. Marshall, D. Croll, M. McDonald, and T. Williams. 2001. Underwater Behavior of Blue Whales Using a Suction-cup Attached CRITTERCAM. Annual report to Office of Naval Research for Grant Number: N00014-00-1-0942.
- Calambokidis, J., T. Chandler, L. Schlender, K. Rasmussen, and G.H. Steiger. 2001. Research on humpback and blue whales off California, Oregon, and Washington in 2000. Final report to Southwest Fisheries Science Center, La Jolla, CA. Cascadia Research, 218½ W Fourth Ave., Olympia, WA 98501. 32pp
- Calambokidis, J., L. Schlender, M. Gosho, P. Gearin. 2001. Gray whale photographic identification in 2000: Collaborative research by Cascadia Research and the National Marine Laboratory. Final Report to the National Marine Mammal Laboratory, Seattle, WA.
- Calambokidis, J., T. Chandler, K. Rasmussen, G.H. Steiger, and L. Schlender. 2000. Humpback and blue whale photographic identification research off California, Oregon, and Washington in 1999. Final report to Southwest Fisheries Science Center, Olympic Coast National Marine Sanctuaries, and Channel Islands National Marine Sanctuary. Cascadia Research, 218½ W Fourth Ave., Olympia, WA 98501. 39pp
- Calambokidis, J., J. Quan, L. Schlender, M. Gosho, P. Gearin, D. Goley, and C. Toropova. 2000. Gray whale photographic identification in 1999: Collaborative research by Cascadia Research, the National Marine Laboratory, and Humboldt State University. Final Report to the National Marine Mammal Laboratory, Seattle, WA.
- Calambokidis, J., J.D. Darling, V. Deecke, P. Gearin, M. Gosho, W. Megill, C.M. Tombach, D. Goley, C. Toropova, and B. Gisborne. 2000. Range and movements of seasonal resident gray whales from California to southeast Alaska. Final Report to the National Marine Mammal Laboratory, Seattle, WA.
- Rasmussen, K., J. Calambokidis, and G.H. Steiger. 2000. Humpback whales and other marine mammals off Costa Rica, 1996-2000. Report on research during Oceanic Society Expeditions in 2000 in cooperation with Elderhostel volunteers. Cascadia Research, 218½ W Fourth Ave., Olympia, WA 98501. 31pp
- Calambokidis, J., J. Quan, L. Schlender, M. Gosho, and P. Gearin. 1999. Gray whale photographic identification in 1998. Final Report to the National Marine Mammal Laboratory, Seattle, WA. 25pp
- Calambokidis, J., S.J. Jeffries, P.S. Ross, and M. Ikononou. 1999. Temporal trends in contaminants in Puget Sound harbor seals. Final Report to U.S. EPA and Puget Sound Water Quality Action Team. Cascadia Research, 218½ W Fourth Ave., Olympia, WA 98501. 53pp
- Calambokidis, J., K. Rasmussen, and G.H. Steiger. 1999. Humpback whales and other marine mammals off Costa Rica, 1996-99. Report on research during Oceanic Society Expeditions in 1999 in cooperation with Elderhostel volunteers. Cascadia Research, 218½ W Fourth Ave., Olympia, WA 98501. 27pp
- Calambokidis, J., T. Chandler, K. Rasmussen, G.H. Steiger, and L. Schlender. 1999. Humpback and blue whale photographic identification research off California, Oregon, and Washington in 1998. Final report to Southwest Fisheries Science Center, Olympic Coast National Marine Sanctuaries, and University of California at Santa Cruz. Cascadia Research, 218½ W Fourth Ave., Olympia, WA 98501. 35pp.

- Calambokidis, J. and S.D. Osmek. 1998. Marine mammal research and mitigation in conjunction with air gun operation for the USGS "SHIPS" seismic surveys in 1998. Draft report to the U.S. Geological Survey, National Marine Fisheries Service and Minerals Management Service. 29pp.
- Calambokidis, J., T. Chandler and S.D. Osmek. 1998. Aerial surveys conducted to test the impacts of the LFA sound source. Final report for Agreement #33318-5819 to Cornell University as part of LFA Phase I from the Office of Naval Research. 31pp.
- Calambokidis, J., K. Rasmussen and T. Chandler. 1998. Photographic identification of blue and fin whales conducted to test the impacts of the LFA sound source. Final report for Agreement #33318-5819 to Cornell University as part of LFA Phase I from the Office of Naval Research. 14pp.
- Calambokidis, J., L. Schlender, M. Gosh, and P. Gearin. 1998. Gray whale photographic identification in 1997. Final report to the National Marine Mammal Laboratory, Seattle, WA.
- Calambokidis, J., T. Chandler, K. Rasmussen, G.H. Steiger, and L. Schlender. 1998. Humpback and blue whale photographic identification: report of research in 1997. Final report to Southwest Fisheries Science Center, Olympic Coast National Marine Sanctuaries, University of California at Santa Cruz, and Cornell University. 41pp.
- Calambokidis, J., G.H. Steiger, J.M. Straley, T.J. Quinn II, L.M. Herman, S. Cerchio, D.R. Salden, M. Yamaguchi, F. Sato, J. Urbán R., J. Jacobsen, O. von Ziegesar, K.C. Balcomb, C.M. Gabriele, M.E. Dahlheim, M. Higashi, S. Uchida, J.K.B. Ford, Y. Miyamura, P. Ladrón de Guevara P., S.A. Mizroch, L. Schlender and K. Rasmussen. 1997. Abundance and population structure of humpback whales in the North Pacific Basin. Report to Southwest Fisheries Science Center, National Marine Fisheries Service, La Jolla, California. 71pp.
- Calambokidis, J., S. Osmek and J.L. Laake. 1997. Aerial surveys for marine mammals in Washington and British Columbia inside waters. Report to the National Marine Mammal Laboratory, National Marine Fisheries Service, Seattle, Washington. 98pp.
- Calambokidis, J. 1996. Preliminary analysis of aerial survey data: ATOC surveys conducted off California through March 1996. Report to the ATOC Research Advisory Board and UC-Santa Cruz.
- Calambokidis, J. 1996. Preliminary (Quick-Look) Analysis of Photo-Identification Surveys for 1995. Report to the ATOC Research Advisory Board and UC-Santa Cruz.
- Calambokidis, J., G.H. Steiger, and K. Rasmussen. 1996. Humpback and blue whale photographic identification: Report of research in 1995. Final report to Monterey Bay, Channel Islands, and Olympic Coast National Marine Sanctuaries and Southwest Fisheries Science Center. Cascadia Research, 218½ W Fourth Ave., Olympia, WA 98501. 37 pp.
- Calambokidis, J. and G.H. Steiger. 1995. Population estimates of humpback and blue whales made through photo-identification from 1993 surveys off California. Report to Southwest Fisheries Science Center, National Marine Fisheries Service, La Jolla, California. 36pp.
- Calambokidis, J. and R.W. Baird. 1994. Status of marine mammals in the Strait of Georgia, Puget Sound, and Juan de Fuca Strait and potential human impacts. p 282-303 *In*: Review of the marine environment and biota of Strait of Georgia, Puget Sound, and Juan de Fuca Strait. Proceedings of the BC/Washington Symposium on the Marine Environment, January 13 and 14, 1994. (R.C.H. Wilson, R.J. Beamish, F. Aitkens, and J. Bell, Ed.). Canadian Technical Report of Fisheries and Aquatic Sciences No. 1948.

- Calambokidis, J., J.R. Evenson, G.H. Steiger, and S.J. Jeffries. 1994. Gray whales of Washington State: Natural history and photographic catalog. Report to Washington Department of Fish and Wildlife, Olympia, WA.
- Calambokidis, J., G.H. Steiger, and J.R. Evenson. 1993. Photographic identification and abundance estimates of humpback and blue whales off California in 1991-92. Report to Southwest Fisheries Center, National Marine Fisheries Service, La Jolla, California. 67pp.
- Evenson, J.R., and J. Calambokidis. 1993. Monitoring of harbor seals at Dosewallips Delta September 1992 to July 1993. Report to Washington State Parks and Recreation Department, Olympia, Washington. 33pp.
- Calambokidis, J., J.R. Evenson, and S.J. Jeffries. 1993. Monitoring of gray whales in Puget Sound and surrounding waters, 1992. Report to Washington Department of Wildlife, Olympia, Washington as part of the Puget Sound Ambient Monitoring Program. 31pp.
- Calambokidis, J., J.C. Cubbage, J.R. Evenson, S.D. Osmek, J.L. Laake, P.J. Gearin, B.J. Turnock, S.J. Jeffries, and R.F. Brown. 1993. Abundance estimates of harbor porpoise in Washington and Oregon waters. Report to the National Marine Mammal Laboratory, National Marine Fisheries Service, Seattle. 55pp.
- Calambokidis, J., J.R. Evenson, J.C. Cubbage, S.D. Osmek, D. Rugh, and J.L. Laake, 1993. Calibration of sighting rates of harbor porpoise from aerial surveys. Report to the National Marine Mammal Laboratory, National Marine Fisheries Service, Seattle. 41pp.
- Evenson, J.R., and J. Calambokidis. 1992. Monitoring of harbor seals at Dosewallips Delta and their reaction to slough barriers August 1991 to July 1992. Report to Washington State Parks and Recreation Department, Olympia, Washington. 25pp.
- Calambokidis, J., G.H. Steiger, and J.R. Evenson. 1992. Photographic identification and abundance estimates of humpback and blue whales off California in 1991. Report to Southwest Fisheries Center, National Marine Fisheries Service, La Jolla, California. 40pp.
- Calambokidis, J., J.R. Evenson, and D.R. Paulson. 1992. Bird and mammal surveys after the Tenyo Maru Oil Spill, July 1991. Report to the Washington Dept. of Ecology, Olympia, Washington. 38pp.
- Calambokidis, J., J.R. Evenson, J.C. Cubbage, P.J. Gearin, and S.D. Osmek. 1992. Harbor porpoise distribution and abundance estimate off Washington from aerial surveys in 1991. Report to the National Marine Mammal Laboratory, National Marine Fisheries Service, Seattle. 44pp.
- Calambokidis, J., G.H. Steiger, J.R. Evenson, T.R. Kieckhefer, K.C. Balcomb, and D.E. Claridge. 1991. Research on humpback and blue whales in the Gulf of the Farallones and adjacent waters, 1989 and 1990. Report to the Gulf of the Farallones National Marine Sanctuary and Southwest Fisheries Center, National Marine Fisheries Service, La Jolla, California. 34pp.
- Calambokidis, J., J.C. Cubbage, S.J. Jeffries, P. Gearin, and R. Brown. 1991. Harbor porpoise distribution and abundance estimates off Washington from aerial surveys in 1990. Report to the National Marine Mammal Laboratory, National Marine Fisheries Service, Seattle. 35pp.
- Calambokidis, J., J.B. Buchanan, G.H. Steiger, and J.R. Evenson. 1991. Toxic contaminants in Puget Sound wildlife. Report EPA910/9-91-023 to the U.S. EPA, Region 10, Seattle, Washington. 96pp.

- Calambokidis, J., and J. Barlow. 1991. Chlorinated hydrocarbon concentrations and their use for describing population discreteness in harbor porpoises from Washington, Oregon, and California. In (J.E. Reynolds III and D.K. Odell (eds.), *Marine mammal strandings in the United States: proceedings of the Second Marine Mammal Stranding Workshop*; 3-5 December 1987, Miami, Florida. NOAA Technical Report NMFS 98:101-110.
- Calambokidis, J., G.H. Steiger, L.J. Lowenstine, and D.S. Becker. 1991. Chemical contamination of harbor seal pups in Puget Sound. Report EPA 910/9-91-032 to U.S. EPA, Region 10, Seattle, Washington.
- Calambokidis, J., J.R. Evenson, and G.H. Steiger. 1991. Monitoring of harbor seals at Dosewallips State Park, Washington. Report to the Washington State Parks and Recreation Commission, Olympia, Washington. 19pp.
- Calambokidis, J., G.H. Steiger, J.R. Evenson, and S.J. Jeffries. 1991. Censuses and disturbance of harbor seals at Woodard Bay and recommendations for protection. Final report to the Washington Department of Natural Resources, Olympia. 44pp.
- PSEP. 1990. Recommended guidelines for sampling marine mammal tissue for chemical analyses in Puget Sound and adjacent waters. Report to U.S. EPA, Region 10, Seattle by PTI Environmental Services and Cascadia Research. Primary authors were J. Calambokidis, G.H. Steiger and D.S. Becker. 84pp.
- Calambokidis, J., G.H. Steiger, B.D. McLaughlin, and J.R. Evenson. 1990. Harbor seal haul-out habitat and the feasibility of shifting haul-out locations at Dosewallips State Park, Washington. Report to the Washington State Parks and Recreation Commission, Olympia, Washington. 70pp.
- Calambokidis, J. In press. Vessel surveys for harbor porpoise off the Washington coast. In H. Kajimura (ed.) *Harbor porpoise interactions with Makah salmon set net fishery in coastal Washington waters, 1988- 89*. NOAA Technical Report.
- Calambokidis, J., D.J. Rugh, and S.M. Melin. In press. Land-based calibrations of harbor porpoise sightings from a vessel along the northern Washington coast. In H. Kajimura (ed.) *Harbor porpoise interactions with Makah salmon set net fishery in coastal Washington waters, 1988-89*. NOAA Technical Report.
- Calambokidis, J., C. Ewald, G.H. Steiger, S.M. Cooper, I.D. Szczepaniak, and M.A. Webber. 1990. Harbor porpoise studies in the Gulf of the Farallones. Report to the Gulf of the Farallones National Marine Sanctuary, San Francisco, California. 58pp.
- Rubida, P. and J. Calambokidis. 1990. Factors affecting non-point source fecal coliform levels in the Quilcene and Dabob Bay watersheds, Jefferson County, Washington. Report to the Washington Department of Ecology, Olympia, Washington. 24pp.
- Calambokidis, J., G.H. Steiger, J.C. Cubbage, and K.C. Balcomb. 1989. Biology of blue whales in the Gulf of the Farallones and adjacent areas of California. Report to Gulf of the Farallones National Marine Sanctuary, San Francisco, Ca. 58pp.
- Calambokidis, J., G.H. Steiger, J.C. Cubbage, K.C. Balcomb, and P. Bloedel. 1989. Biology of humpback whales in the Gulf of the Farallones, California. Report to Gulf of the Farallones National Marine Sanctuary, San Francisco, California. 93pp.
- Calambokidis, J., G.H. Steiger, and B.D. McLaughlin. 1989. Bacterial contamination related to harbor seals in Puget Sound, Washington. Final report to Jefferson County and the Washington Department of Ecology, Olympia, Washington. 74pp.

- Calambokidis, J., G.H. Steiger, J.C. Cubbage, and K.C. Balcomb. 1988. Research on blue whales (*Balaenoptera musculus*) in the Gulf of the Farallones, 1987. Report to the National Park Service and Gulf of the Farallones National Marine Sanctuary, San Francisco, California. 47 pp.
- Calambokidis, J., J.C. Cubbage, G.H. Steiger, K.C. Balcomb, and P. Bloedel. 1988. Humpback whale (*Megaptera novaeangliae*) distribution and abundance in the Gulf of the Farallones, 1987. Report to the National Park Service and Gulf of the Farallones National Marine Sanctuary, San Francisco, California. 65pp.
- Calambokidis, J. and B. McLaughlin. 1987. Harbor seal populations and their contributions to fecal coliform pollution in Quilcene Bay, Washington. Final report for contract from Jefferson County and the Washington Department of Ecology, Olympia, Washington. 29pp.
- Cubbage, J.C., J. Calambokidis, K.C. Balcomb, and G.H. Steiger. 1987. Humpback whale (*Megaptera novaeangliae*) distribution and abundance in the Gulf of the Farallones National Marine Sanctuary. Annual Report for Contract No. CX 8000-6-0003 from National Park Service and Gulf of the Farallones National Marine Sanctuary, San Francisco, California. 53pp.
- Calambokidis, J., J.C. Cubbage, K.C. Balcomb, and G.H. Steiger. 1987. Research on blue whales (*Balaenoptera musculus*) in the Gulf of the Farallones, 1986. Final Report for Order No. PX 8140-7-0543 from National Park Service and Gulf of the Farallones National Marine Sanctuary, San Francisco, California. 30pp.
- Calambokidis, J., G.H. Steiger, and J.C. Cubbage. 1987. Marine mammals in the southwestern Strait of Juan de Fuca: Natural history and potential impacts of harbor development in Neah Bay. Final report for Contract No. DACW67-85-M-0046 from Corps of Engineers, Seattle, Washington. 103pp.
- Calambokidis, J. 1987. Contaminant concentrations in northern fur seals and preliminary evaluation of risk from consumption. Final report for Purchase Order No. 40-HANF-7-00013 from the National Marine Fisheries Service, Juneau, Alaska. 26pp.
- Reed, M., D. French, J. Calambokidis, and J. Cubbage. 1986. Simulation modeling of the effects of oil spills on population dynamics of northern fur seals. Final report for OCS Study MMS 86-0045 for Minerals Management Service, Anchorage, Alaska. 158pp.
- Duval, W.S.(ed.), L.A. Harwood, P. Norton, J. Cubbage, J. Calambokidis, G. Borstad, J. Cherniawsky, R. Kerr. 1986. Distribution, abundance, and age segregation of bowhead whales relative to industry activities and oceanographic features in the southeast Beaufort Sea, August-September 1985. Report to Environmental Studies Revolving Funds, Ottawa, Canada.
- Calambokidis, J. 1986. Chlorinated hydrocarbons in harbor porpoise from Washington, Oregon, and California: Regional differences in pollutant ratios. Final report for Contract No. 40ABNF5 3875 from Southwest Fisheries Center, La Jolla, California. 29pp.
- Calambokidis, J., S.M. Speich, J. Peard, G.H. Steiger, J.C. Cubbage, D.M. Fry, and L.J. Lowenstine. 1985. Biology of Puget Sound marine mammals and marine birds: Population health and evidence of pollution effects. NOAA Tech. Memo. NOS OMA 18, National Technical Information Service, Springfield, Virginia. 159pp.
- Calambokidis, J., and R.J. Peard. 1985. Chlorinated hydrocarbons in the tissues of northern fur seals from St. Paul Island, Alaska. In: Fur Seal Investigations, 1982 (P. Kozloff ed.). NOAA Technical Memorandum NMFS F/NWC-71.

- Calambokidis, J., J. Peard, G.H. Steiger, J.C. Cubbage, and R.L. DeLong. 1984. Chemical contaminants in marine mammals from Washington State. NOAA Technical Memorandum NOS OMS 6, National Technical Information Service, Springfield, Virginia. 167pp.
- Cubbage, J.C., J. Calambokidis, and D.J. Rugh. 1984. Bowhead whale length measured through stereophotogrammetry. Final report contract #83-ABC-00129 to the National Marine Mammal Laboratory, Seattle, Wa. 69pp.
- Calambokidis, J. and S. Carter. 1979. Gertrude Island harbor seals: Potential human impact and the need for future protection. Report prepared for U.S. Fish and Wildlife Service, Olympia, Wa. 6pp.
- Calambokidis, J., K. Bowman, S. Carter, J. Cubbage, P. Dawson, T. Fleischner, J. Shuett-Hames, J. Skidmore, B. Taylor, and S.G. Herman. 1978. Chlorinated hydrocarbon concentrations and the ecology and behavior of harbor seals in Washington State waters. Final report to the National Science Foundation, Washington, D.C. 121pp.
- Calambokidis, J. et al. 1975. Distribution and biomagnifications of polychlorinated biphenyls in the benthic community. Final report to the National Science Foundation, Washington, D.C. 41pp.

Presentation to scientific societies and symposia abstracts

- Calambokidis, J., J. Barlow, E.A. Falcone, L. Schlender, A.B. Douglas, G.H. Steiger, and K.B. Ford. 2005. Changes in abundance of humpback whales off the west coast of the U.S. Abstract (Proceedings) 16th Biennial Conference on the Biology of Marine Mammals, San Diego, CA, December 12-16, 2005.
- Steiger, G.H. and J. Calambokidis. 2005. Killer whale rake mark scarring on humpback whale flukes: a demographic and temporal analysis of the California-Oregon-Washington feeding aggregation. Abstract (Proceedings) 16th Biennial Conference on the Biology of Marine Mammals, San Diego, CA, December 12-16, 2005.
- Calambokidis, J., E.M. Oleson, W.C. Burgess, M.A. McDonald, and J.A. Hildebrand. 2004. Insights in underwater behavior of blue and fin whales from attachments of acoustic recording tags. Presentation to the 148th meeting of the Acoustical Society of America, San Diego, CA, 18 November 2004. Journal of the Acoustical Society of America 116:2613.
- Oleson, E.M., J. Calambokidis, S.M. Wiggins, and J.A. Hildebrand. 2004. Blue and fin whales in the Southern California Bight: Using long-term acoustic records and acoustic recording tags. Presentation to the 148th meeting of the Acoustical Society of America, San Diego, CA, 18 November 2004. Journal of the Acoustical Society of America 116:2588.
- Wiggins, S.M., A.W. Sauter, J.A. Hildebrand, A.T. Abawi, M.B. Porter, P. Hursky, and J. Calambokidis. 2004. Concurrent visual and acoustic tracking of fin whales in offshore Southern California. Presentation to the 148th meeting of the Acoustical Society of America, San Diego, CA, 18 November 2004. Journal of the Acoustical Society of America 116:2607.
- Calambokidis, J. E. Oleson, M. McDonald, W. Burgess, J. Francis, and J. Hildebrand. 2003. Feeding and Vocal Behavior of Blue Whales Determined Through Suction-Cup Attached Tags. Environmental Consequences of Underwater Sound (ECOUS) Symposium. 12-16 May 2003. San Antonio, Texas.
- Burgess, W.C., J. Calambokidis, E.M. Oleson, J.R. Olson, J.A. Hildebrand, and M.A. McDonald. 2003. A Miniature Acoustic Recording Tag and First Application to Northeast Pacific Blue Whales. Environmental Consequences of Underwater Sound (ECOUS) Symposium. 12-16 May 2003. San Antonio, Texas.

- Oleson, E., J. Calambokidis, S. Wiggins, M. McDonald, J. Hildebrand. Temporal Patterns in Visual and Acoustic Detection Rates of Blue Whales in the Southern California Bight. Environmental Consequences of Underwater Sound (ECOUS) Symposium. 12-16 May 2003. San Antonio, Texas.
- Francis, J., J. Calambokidis, M. Bakhtiari, G. Marshall, M. McDonald, T. Williams, D. Gendron, and D. Croll. 2001. Deployment of an instrument package to film and record underwater behavior of blue whales. *in: Abstracts Fourteenth Biennial Conference on the Biology of Marine Mammals*, Vancouver, British Columbia. 28 November - 3 December 2001. Society for Marine Mammalogy, Lawrence, KS.
- Douglas, A. and J. Calambokidis. 2001. Regional and temporal patterns of remora occurrence on blue whales in the eastern Pacific Ocean. *in: Abstracts Fourteenth Biennial Conference on the Biology of Marine Mammals*, Vancouver, British Columbia. 28 November - 3 December 2001. Society for Marine Mammalogy, Lawrence, KS.
- Steiger, G.H. and J. Calambokidis. 2001. Differences in fluke coloration and rake marks in North Pacific humpback whales. *in: Abstracts Fourteenth Biennial Conference on the Biology of Marine Mammals*, Vancouver, British Columbia. 28 November - 3 December 2001. Society for Marine Mammalogy, Lawrence, KS.
- Calambokidis, J., J. Erickson, and E. Phillips. 2001. Sizes of whales determined from fluke photographs taken at known distances. *in: Abstracts Fourteenth Biennial Conference on the Biology of Marine Mammals*, Vancouver, British Columbia. 28 November - 3 December 2001. Society for Marine Mammalogy, Lawrence, KS.
- Rasmussen, K., J. Calambokidis, G.H. Steiger, M. Saborio, L. May, and T. Gerrodette. 2001. Extent of geographic overlap of North Pacific and South Pacific humpback whales on their Central American wintering grounds. *in: Abstracts Fourteenth Biennial Conference on the Biology of Marine Mammals*, Vancouver, British Columbia. 28 November - 3 December 2001. Society for Marine Mammalogy, Lawrence, KS.
- Schlender, L., J. Calambokidis, and J. Evenson. 2001. Sightings and strandings of gray whales in Puget Sound, Washington. *in: Abstracts Fourteenth Biennial Conference on the Biology of Marine Mammals*, Vancouver, British Columbia. 28 November - 3 December 2001. Society for Marine Mammalogy, Lawrence, KS.
- Chandler, T., J. Calambokidis, and R. Sears. 2001. First report on sightings of a white blue whale. *in: Abstracts Fourteenth Biennial Conference on the Biology of Marine Mammals*, Vancouver, British Columbia. 28 November - 3 December 2001. Society for Marine Mammalogy, Lawrence, KS.
- Calambokidis, J. 1999. Status and trends of humpback whales in the North Pacific. *in: Abstracts Thirteenth Biennial Conference on the Biology of Marine Mammals*, Maui, HI 28 November - 3 December 1999. Society for Marine Mammalogy, Lawrence, KS.
- Steiger, G.H., J. Calambokidis, D.K. Ellifrit, K.C. Balcomb, J.D. Darling and G.A. Green. 1999. Distribution and population structure of humpback whales off Oregon and Washington. *in: Abstracts Thirteenth Biennial Conference on the Biology of Marine Mammals*, Maui, HI 28 November - 3 December 1999. Society for Marine Mammalogy, Lawrence, KS.
- Rasmussen, K., J. Calambokidis, G.H. Steiger, and T.E. Chandler. 1999. Central America as a significant wintering ground for North Pacific humpback whales. *in: Abstracts Thirteenth Biennial Conference on the Biology of Marine Mammals*, Maui, HI 28 November - 3 December 1999. Society for Marine Mammalogy, Lawrence, KS.

- Chandler, T.E., J. Calambokidis, and K. Rasmussen. 1999. Population identity of blue whales on the Costa Rica Dome. *in: Abstracts Thirteenth Biennial Conference on the Biology of Marine Mammals*, Maui, HI 28 November - 3 December 1999. Society for Marine Mammalogy, Lawrence, KS.
- Jeffries, S.J., H. Huber, J. Calambokidis and J. Laake. 1999. Status and trends in harbor seal stocks in Washington State. *in: Abstracts Thirteenth Biennial Conference on the Biology of Marine Mammals*, Maui, HI 28 November - 3 December 1999. Society for Marine Mammalogy, Lawrence, KS.
- Quan, J., J. Calambokidis, D. DeMaster, and A. Olson. 1999. Management implications of a distinct feeding aggregation of gray whales in the Pacific Northwest. *in: Abstracts Thirteenth Biennial Conference on the Biology of Marine Mammals*, Maui, HI 28 November - 3 December 1999. Society for Marine Mammalogy, Lawrence, KS.
- Bain, D., J. Calambokidis, S. Osmek, and M. Fisher. 1999. Effects of seismic survey noise on marine mammals in the inshore waters of Washington State. *in: Abstracts Thirteenth Biennial Conference on the Biology of Marine Mammals*, Maui, HI 28 November - 3 December 1999. Society for Marine Mammalogy, Lawrence, KS.
- Toropova, C., G. Goley, and J. Calambokidis. 1999. Abundance, distribution, and identity of gray whales (*Eschrichtius robustus*) in northern California. *in: Abstracts Thirteenth Biennial Conference on the Biology of Marine Mammals*, Maui, HI 28 November - 3 December 1999. Society for Marine Mammalogy, Lawrence, KS.
- Costa, D. and J. Calambokidis. 1999. Marine mammal research program for the Pioneer Seamount ATOC experiment. Invited presentation (by JC) to the Acoustical Society of America, Columbus, OH, 4 November 1999. *Journal of the Acoustical Society of America* 106:2280.
- Calambokidis, J. 1998. Contaminants in Washington marine mammals: spatial, temporal and species-related patterns. Invited presentation for workshop held 17-19 April 1998 at the Inst. Ocean Sciences, Sidney, BC. Abstract in "Environmental contaminants and marine mammals health: Research applications" P.S. Ross and S. De Guise, Editors. *Canadian Technical Report of Fisheries and Aquatic Sciences* 2255.
- Calambokidis, J., Chandler, T.E., Costa, D.P., Clark, C.W., and H. Whitehead. 1998. Effects of ATOC sound source on the distribution of marine mammals observed from aerial surveys off central California. p. 22 *in: Abstracts of the World Marine Mammal Science Conference*, Monaco, 24-24 January 1998. Society for Marine Mammalogy, Lawrence, Kansas.
- Calambokidis, J., R.R. Reeves, R. Sears, and G.H. Steiger. 1998. Migration patterns of blue whales. p. 22 *in: Abstracts of the World Marine Mammal Science Conference*, Monaco, 20-24 January 1998. Society for Marine Mammalogy, Lawrence, Kansas.
- Mate, B.R., B.A. Lagerquist, and J. Calambokidis. 1998. The movements of North Pacific blue whales off southern California and their southern fall migration. p. 87 *in: Abstracts of the World Marine Mammal Science Conference*, Monaco, 24-24 January 1998. Society for Marine Mammalogy, Lawrence, Kansas.
- Calambokidis, J. 1998. Contaminants in Washington marine mammals: spatial, temporal and species-related patterns. Invited presentation to the Workshop on "Environmental contaminants and marine mammals health: Research applications" held 17-19 April 1998 at the Inst. Ocean Sciences, Sidney, BC.
- Calambokidis, J. 1996. Marine mammal surveys off central California. Invited presentation to Monterey Bay National Marine Sanctuary Research Activity Panel. Monterey, California. 7 June 1996.

- Barlow, J., and J. Calambokidis. 1995. Abundance of blue and humpback whales in California - a comparison of mark-recapture and line-transect estimates. p. 8 *in*: Abstracts Eleventh Biennial Conference on the Biology of Marine Mammals, Orlando, Florida, 14-18 December 1995. Society for Marine Mammalogy, Lawrence, Kansas.
- Calambokidis, J., R. Sears, G.H. Steiger, and J. Evenson. 1995. Movement and stock structure of blue whales in the eastern North Pacific. p. 19 *in*: Abstracts Eleventh Biennial Conference on the Biology of Marine Mammals, Orlando, Florida, 14-18 December 1995. Society for Marine Mammalogy, Lawrence, Kansas.
- Conway, C., J. Calambokidis, G.H. Steiger, and C.S. Baker. 1995. Sex ratio of blue whales off California. p. 25 *in*: Abstracts Eleventh Biennial Conference on the Biology of Marine Mammals, Orlando, Florida, 14-18 December 1995. Society for Marine Mammalogy, Lawrence, Kansas.
- Kieckhefer, T.R., J. Calambokidis, G.H. Steiger, and N.A. Black. 1995. Prey of humpback and blue whales off California based on identification of hard parts in feces. p. 62 *in*: Abstracts Eleventh Biennial Conference on the Biology of Marine Mammals, Orlando, Florida, 14-18 December 1995. Society for Marine Mammalogy, Lawrence, Kansas.
- Rasmussen, K., G.H. Steiger, and J. Calambokidis. 1995. Evidence of a humpback whale wintering area in Costa Rica. p. 93 *in*: Abstracts Eleventh Biennial Conference on the Biology of Marine Mammals, Orlando, Florida, 14-18 December 1995. Society for Marine Mammalogy, Lawrence, Kansas.
- Steiger, G.H. and J. Calambokidis. 1995. Evidence of predatory attacks on a humpback whales off California, Oregon, and Washington. p. 109 *in*: Abstracts Eleventh Biennial Conference on the Biology of Marine Mammals, Orlando, Florida, 14-18 December 1995. Society for Marine Mammalogy, Lawrence, Kansas.
- Calambokidis, J., G.H. Steiger, G.A. Green, and K.C. Balcomb. 1995. Biology of humpback whales off Oregon and Washington. Presentation to the Annual Meeting of the Society for Northwestern Vertebrate Biology, 23-25 March 1995, Orcas Is., Washington.
- Calambokidis, J. 1995. Contaminants in Puget Sound marine mammals: Temporal, spatial, and species-related patterns. Presentation at Puget Sound Research '95. 12-14 January 1995, Bellevue, Washington. pages 901-908 *In*: Proceedings Vol. 2, Puget Sound Water Quality Authority, P.O. Box 40900, Olympia, WA 98504.
- Calambokidis, J., J. Straley, S. Mizroch, and S. Cerchio. 1995. An overview of the movements of humpback whales in the North Pacific and evaluation of stock structure. Workshop to Assess Research and Other Needs and Opportunities Related to Humpback Whale Management in the Hawaiian Islands. 26-28 April 1995, Kaamapali, Maui, Hawaii.
- Calambokidis, J. and R.W. Baird. 1994. Status of marine mammals in the Strait of Georgia, Puget Sound, and Juan de Fuca Strait and potential human impacts. Presentation to the BC/Washington Symposium on the Marine Environment, 13-14 January 1994, Vancouver, British Columbia.
- Calambokidis, J., L.T. Findley, R.L. Brownell, and J. Barlow. 1993. Chlorinated hydrocarbon concentrations in the Gulf of California harbor porpoise (*Phocoena sinus*). P. 13 *in*: Abstracts Tenth Biennial Conference on the Biology of Marine Mammals, Galveston, Texas, 11-15 November 1993. Society for Marine Mammalogy, Lawrence, Kansas.
- Calambokidis, J., G.H. Steiger, and J. Barlow. 1993. Estimates of humpback and blue whale abundance along the U.S. west coast using mark-recapture of identified individuals. P. 34 *in*: Abstracts Tenth Biennial Conference on the

Biology of Marine Mammals, Galveston, Texas, 11-15 November 1993. Society for Marine Mammalogy, Lawrence, Kansas.

Black, N.A., A. Schulman, D. Ellifrit, D. Shearwater, A. Baldridge, R.L. Ternullo, D. Goley, J. Calambokidis, and M. Webber. 1993. Photo-identifications of killer whales off California. p. 29 *in*: Abstracts Tenth Biennial Conference on the Biology of Marine Mammals, Galveston, Texas, 11-15 November 1993. Society for Marine Mammalogy, Lawrence, Kansas.

Osmek, S., J. Calambokidis, D. Rugh, and J. Laake. 1993. Visibility bias during aerial surveys of harbor porpoise *Phocoena phocoena* in Oregon and Washington. p. 83 *in*: Abstracts Tenth Biennial Conference on the Biology of Marine Mammals, Galveston, Texas, 11-15 November 1993. Society for Marine Mammalogy, Lawrence, Kansas.

Calambokidis, J., S. Osmek, and P. Gearin. 1993. Abundance estimates of harbor porpoise (*Phocoena phocoena*) in Washington and Oregon waters. Presentation at the annual meeting of the Washington/British Columbia Chapters of the Wildlife Society, 10-12 March 1993, Blaine, Washington.

Calambokidis, J., G.H. Steiger, J.R. Evenson, J.C. Cubbage, and R.W. Osborne. 1991. Gray whales in Puget Sound and the Strait of Juan de Fuca. Proceedings of conference on the Puget Sound Research 1991. Puget Sound Water Quality Authority, Seattle.

Calambokidis, J., J.R. Evenson, G.H. Steiger, Y. Fahoum, and M. Knox. 1991. Human disturbances of harbor seals at haul-out sites in Puget Sound. Abstracts of the Second Meeting on Puget Sound Research, Puget Sound Water Quality Authority, Seattle.

Calambokidis, J., K.C. Balcomb, T.R. Kieckhefer, G.H. Steiger, D. Bockus, P. Bloedel, J.C. Cubbage, and J. Roletto. 1990. Wanderings of a wayward whale: resightings of Humphrey. Abstract in American Cetacean Society Fourth Biennial Conference, Monterey Bay, California.

Baker, C.S., A. Baker, J. Bannister, J. Calambokidis, P. Clapham, R.H. Lambertson, S.R. Palumbi, O. Vasquez, M.T. Weinrich, and S.J. O'Brien. 1990. Worldwide population structure and mitochondrial DNA variation of humpback whales. Abstract to the Conference on Humpback Whales, Brisbane, Australia, 27-28 September.

Calambokidis, J., G.H. Steiger, D. Melvin, and M. Ramsey. 1990. Evaluation of harbor seal contributions to bacterial contamination in Puget Sound and possible solutions. Presented at the 8th Annual Pacific Rim Shellfish Sanitation Conference, 29-31 May, Portland, Oregon.

Calambokidis, J., K.M. Langelier, P.J. Stacey, and R.W. Baird. 1990. Environmental contaminants in killer whales from Washington, British Columbia, and Alaska. Abstract of the Third International Orca Symposium, 9-12 March, Victoria, British Columbia.

Calambokidis, J. 1990. Bacterial contamination of shellfish caused by harbor seals in Puget Sound. Presented to the Wildlife Society Conference, 28 Feb-2 Mar, Rippling River, Oregon.

Calambokidis, J., G.H. Steiger, J.C. Cubbage, K.C. Balcomb, P. Bloedel, and D.W. Bockus. 1989. Abundance and distribution of blue and humpback whales in the Gulf of the Farallones, California. Abstracts of the Eighth Conference on the Biology of Marine Mammals, 7-11 December, Pacific Grove, California.

Calambokidis, J. 1990. Chlorinated hydrocarbons in marine mammals from Puget Sound and the Northeast Pacific. Proceedings of conference on the Bioavailability of Toxic Contaminants in the San Francisco Bay/Delta, the Aquatic Habitat Institute, Richmond, California.

- Steiger, G.H., J. Calambokidis, J.C. Cubbage, K.C. Balcomb, and P. Bloedel. 1989. Size and age class of blue and humpback whales in a central California feeding area. Abstracts of the Eighth Conference on the Biology of Marine Mammals, 7-11 December, Pacific Grove, California.
- Baker, C.S., S.R. Palumbi, R.H. Lambertson, M.T. Weinrich, J. Calambokidis, and S.J. O'Brien. 1989. Geographic structure of mitochondrial DNA variation in humpback whales. Abstracts of the Eighth Conference on the Biology of Marine Mammals, 7-11 December, Pacific Grove, California.
- Calambokidis, J., G.H. Steiger, J.C. Cubbage, K.C. Balcomb, C. Ewald, S. Kruse, and R. Wells. 1988. Population size, movements, and behavior of blue whales, *Balaenoptera musculus*, in central California, as discerned through photo-identification. Symposium on the Use of Non-Lethal Techniques, Especially Photo-Identification Techniques, to Estimate Cetacean Population Parameters, 29 April-1 May, La Jolla, California.
- Cubbage, J.C., J. Calambokidis, G.H. Steiger, K.C. Balcomb, and P. Bloedel. 1988. Photo-identification of humpback whales, *Megaptera novaeangliae*, in the Gulf of the Farallones, California, with an analysis of potential sources of sample bias. Symposium on the Use of Non-Lethal Techniques, Especially Photo-Identification Techniques, to Estimate Cetacean Population Parameters, 29 April-1 May, La Jolla, California.
- Sears, R. and J. Calambokidis. Long range movement of blue whales, *Balaenoptera musculus*, between central California, USA, and the Sea of Cortez, Mexico. Symposium on the Use of Non-Lethal Techniques, Especially Photo-Identification Techniques, to Estimate Cetacean Population Parameters, 29 April-1 May, La Jolla, California.
- Calambokidis, J. and B.D. McLaughlin. 1988. Harbor seal populations and their contribution to fecal coliform contamination in Quilcene Bay, Washington. Proceedings of the First Annual Meeting on Puget Sound Research, Vol. 1, pp. 300-306, Puget Sound Water Quality Authority, Seattle.
- Calambokidis, J., G.H. Steiger, J.C. Cubbage, S. Kort, S. Belcher, and M. Meehan. 1988. Status of Puget Sound harbor seals: trends in populations size and contaminant concentrations. Proceedings of the First Annual Meeting on Puget Sound Research, Vol. 2, pp. 589-597, Puget Sound Water Quality Authority, Seattle.
- Speich, S.M., J. Calambokidis, J. Peard, D.M. Fry, and M. Witter. 1988. Puget Sound Glaucous-winged Gull: biology and contaminants. Proceedings of the First Annual Meeting on Puget Sound Research, Vol. 2, pp. 598-607, Puget Sound Water Quality Authority, Seattle.
- Calambokidis, J., and J. Barlow. 1987. Chlorinated hydrocarbon concentrations and their use for describing population discreteness in harbor porpoise from Washington, Oregon, and California. Second Marine Mammal Stranding Workshop, 3-5 December 1987, Miami, Florida, 1991.
- Calambokidis, J., S. Kruse, J.C. Cubbage, R. Wells, K.C. Balcomb, C. Ewald, and G.H. Steiger. 1987. Blue whale occurrence and photo-identification along the central California coast. Proceedings (Abstracts) of the Seventh Biennial Conference on the Biology of Marine Mammals. 5-9 December, Miami, Florida.
- Cubbage, J.C., J. Calambokidis, K.C. Balcomb, and G.H. Steiger. 1987. Humpback whale (*Megaptera novaeangliae*) distribution and abundance in the Gulf of Farallones, California. Abstracts of the Seventh Biennial Conference on the Biology of Marine Mammals. 5-9 December, Miami, Florida.
- Urban, J., K.C. Balcomb, C. Alvarez, P. Bloedel, J.C. Cubbage, J. Calambokidis, and G.H. Steiger. 1987. Photo-identification matches of humpback whales (*Megaptera novaeangliae*) between Mexico and central

California. Abstracts of the Seventh Biennial Conference on the Biology of Marine Mammals. 5-9 December, Miami, Florida.

Calambokidis, J., S.M. Speich, M. Witter, J. Peard, and D.W. Shea. 1987. Eggshell thinning and pathology in Puget Sound Marine Birds and their association with pollutants. Northwest Scientific Association 60th Annual Meeting. Tacoma, Washington.

Calambokidis, J. 1986. Population status, reproduction and mortality of Puget Sound harbor seals. Presentation to the Annual meeting of the Pacific Northwest Bird and Mammal Society, 10 May 1986, Tacoma, Washington.

Calambokidis, J., G.H. Steiger, and J.C. Cubbage. 1985. Biology of Puget Sound marine mammals: Evidence of pollution-related problems. Abstracts of the Sixth Biennial Conference on the Biology of Marine Mammals. 22-26 Nov. 1985, Vancouver, British Columbia.

Cubbage, J.C., J. Calambokidis, and G.H. Steiger. 1985. Photogrammetry techniques applied to marine mammals. Abstracts of the Sixth Biennial Conference on the Biology of Marine Mammals. 22-26 Nov. 1985, Vancouver, British Columbia.

Steiger, G.H., J. Calambokidis, J.C. Cubbage, D.C. Gribble, D.E. Skilling, and A.W. Smith. 1985. Comparative mortality, pathology, and microbiology of harbor seal neonates at different sites in Puget Sound, Washington. Abstracts of the Sixth Biennial Conference on the Biology of Marine Mammals. 22-26 Nov. 1985, Vancouver, British Columbia.

Calambokidis, J. 1985. Status of Puget Sound harbor seals and the evidence for contaminant effects on marine mammals. Presentation to Washington Chapter of the Wildlife Society, 22 June 1985, Seattle, Washington.

Calambokidis, J., G.H. Steiger, and L.E. Healey. 1983. Behavior of harbor seals and their reaction to vessels in Glacier Bay, Alaska. Abstracts of the Fifth Biennial Conference on the Biology of Marine Mammals. 27 Nov-1 Dec. 1983, Boston, Mass.

Calambokidis, J., G.H. Steiger, and L.E. Healey. 1983. Harbor seal (*Phoca vitulina*) population, behavior, and reaction to vessels in Glacier Bay, Alaska. Abstracts of the First Glacier Bay Science Symposium, 23- 26 September 1983. Gustavus, Alaska.

Calambokidis, J., G.H. Steiger, and R.A. Butler. 1983. Biology and behavior of molting Canada geese (*Branta canadensis fulva*) in Glacier Bay, Alaska. Abstracts of the First Glacier Bay Science Symposium, 23- 26 September 1983. Gustavus, Alaska.

Calambokidis, J. and R.L. Gentry. 1981. Growth, behavior, and impact of tagging on newborn northern fur seals, *Callorhinus ursinus*. Abstracts of the Fourth Biennial Conference on the Biology of Marine Mammals. 14-18 Dec. 1981, San Francisco, California.

Cubbage, J., J. Calambokidis, and S. Carter. 1979. Fish otoliths recovered from scat of harbor seals in the inland waters of Washington State. Abstracts of the Third Biennial Conference on the Biology of Marine Mammals, 7-11 October 1979, Seattle, Washington.

Calambokidis, J. S. Carter, and J. Cubbage. 1979. The concentration and dynamics of chlorinated hydrocarbon contaminants in harbor seals and their use in gaining biological information. Abstracts of the Third Biennial Conference on the Biology of Marine Mammals, 7-11 October 1979, Seattle, Washington.

Calambokidis, J.

Page 19

Calambokidis, J., S. Carter, and J. Cabbage. 1979. Variations in the pupping season of harbor seals in Puget Sound and Hood Canal, Washington. Abstracts of the Third Biennial Conference on the Biology of Marine Mammals, 7-11 October 1979, Seattle, Washington.

Calambokidis, J. S. Carter, and J. Cabbage. 1979. Harbor seal haul out habitat and differences in haul out pattern in the inland waters of Washington State. Abstracts of the Third Biennial Conference on the Biology of Marine Mammals, 7-11 October 1979, Seattle, Washington.

Calambokidis, J. 1978. PCB and DDE in harbor seals and fish from Washington State waters. Proceedings of the 33rd Northwest Regional Meeting of the American Chemical Society, 14-16 June 1978, Seattle, Washington.

Calambokidis, J. and L. Kretchmar. 1977. Observations of a suburban population of harbor seals in Eld Inlet, Puget Sound. Annual Meeting of the Pacific Northwest Bird and Mammal Society, 16 April 1977, Olympia, Washington.

EXAMPLES OF PARTICIPATION IN PROFESSIONAL ORGANIZATIONS

Member of Scientific Advisory Committee for Olympic Coast National Marine Sanctuary

Member of Marine Mammal Specialist Group for Committee on the Status of Endangered Wildlife in Canada

Scientific Reviewer for scientific journals (incl. Marine Mammal Science, Marine Ecology Progress Series, Biological Conservation)

Scientific Advisor for American Cetacean Society

Alternate member on Marine Mammal Commission Federal Advisory Committee on Acoustic Impacts

Board of Directors for Cascadia Research Collective

Member (research) of NMFS North Pacific Take Reduction Team

Member of Recovery Team for blue, fin, and sei whales in Canada

Member of North Pacific Right Whale Recovery Team, Canada

Charter member in the Society for Marine Mammalogy

Scientific Review Panel (1986-87) for Puget Sound Water Quality Authority

From: LINDA CALDERON [Lincalderon@msn.com]
Sent: Wednesday, May 03, 2006 4:21 PM
To: BHPRevisedDEIR@slc.ca.gov
Subject: BHP revised report EIR

Dear Committee Members:

I feel that the report is still not portraying correctly the adverse effects that the warmed water that will be emptied back into the ocean after converting the liquid to gas will have on the ocean life. Nor do I believe that the amount of air pollution is necessarily correct. In fact, we who live in Oxnard and Ventura areas do not want **any added pollution**. Adding pollution to our air and sea as well as destroying our beautiful view of the islands is not an option any of us desire. Thanks for your consideration of these comments. There are many more reasons already delivered in the open meeting.

Linda Calderon
 PO Box 2732
 Oxnard, CA 93034
 805-483-0544 (unlisted)

P037-1

P037-2

P037-3

P037-1

The Project has been modified since issuance of the March 2006 Revised Draft EIR. See Section 1.4.2 for a summary of Project changes. The previously proposed FSRU generator engine cooling system used seawater as the source of cooling water for the four generator engines. The Applicant now proposes using a closed tempered loop cooling system that circulates water from two of the eight submerged combustion vaporizers (SCVs) through the engine room and back to the SCVs, which reduces the seawater intake volume by about 60 percent. The seawater cooling system would remain in place to serve as a backup system during maintenance of the SCVs or when the inert gas generator is operating. Section 2.2.2.4 contains a description of the proposed uptakes and water uses for the FSRU.

Section 4.7.4 contains information on uptake volumes and potential impacts of seawater uptake and discharge on marine biota, including ichthyoplankton from intake of seawater and, from thermal discharges of cooling water. The ichthyoplankton impact analysis (Appendix H1) includes both literature results and data from California Cooperative Oceanic Fisheries Investigations (CalCOFI) surveys. CalCOFI surveys have been consistently collected over a period of time and are the best scientific data currently available.

P037-2

The Project has been modified since issuance of the March 2006 Revised Draft EIR. See Section 1.4.2 for a summary of Project changes. Section 4.6.1.3 contains a revised discussion of Project emissions and proposed control measures. Section 4.6.4 discusses the health effects attributed to air pollutants and includes revised impacts and mitigation measures.

Section 4.7.4 and 4.18.4 discusses the Project's potential effects on marine life and water quality.

P037-3

Section 4.4 and Appendix F contain information on visual resources, impacts, and mitigation. Appendix F describes how visibility from various distances was evaluated and provides additional simulations prepared for viewpoints at elevated sites along the Malibu coastline and inland areas.

From: Dawn Caldwell [caldwd@comcast.net]
Sent: Thursday, April 20, 2006 6:30 PM
To: BHPRevisedDEIR@slc.ca.gov
Subject: Cabrillo Port LNG Terminal

V023-1

Your statement is included in the public record and will be taken into account by decision-makers when they consider the proposed Project.

April 20, 2006

Mr. Dwight Sanders
California State Lands Commission
Division of Environmental Planning and Management
100 Howe Avenue, Suite 100-South
Sacramento, CA 95825-8202

RE: Cabrillo Port LNG Terminal
State Clearinghouse No. **2004021107**

Dear Mr. Sanders:

As a longtime resident of Southern California, I am concerned about the increasing price of natural gas. ^{1-V023-1} That's why I am writing to express my support for the Cabrillo Port LNG facility, which will expand the state's supply of natural gas and, therefore, help keep prices down.

As the state's energy needs grow, so too will demand for natural gas imports. The Cabrillo Port facility is a viable way of bringing new supplies of natural gas to California, and at the same time, help satisfy the state's clean air goals.

I'm pleased that the draft environmental impact report has been responsive to public comments and includes more information from studies and recent surveys concerning biological resources, water resources, endangered species, oak trees, cultural resources, and other important issues. This report supports why Cabrillo Port is an environmentally sound project and shows how the proposed facility will be operated safely.

California needs more natural gas supplies. Cabrillo Port will provide that. I hope this project can move forward so all Californians can benefit.

Sincerely,

Dawn Caldwell

P204

Comment Form/Formulario Para Comentarios

Cabrillo Port LNG Deepwater Port—Revised Draft EIR
Puerto de Aguas Profundas de LNG en el Puerto de Cabrillo—Borrador Revisado del EIR

To receive a copy of the Final EIS/EIR, you must provide your name and address.
 Para recibir una copia del EIS/EIR Final, por favor proporcionar su nombre y dirección.

Name (Nombre): Jane Carlson

Organization/Agency (Organización/Agencia): _____

Street Address (Calle): 21403 Greenbluff Dr.

City (Ciudad): Topanga

State (Estado): CA Zip Code (Código Postal): 90290

email address (dirección de correo electrónico):

Jane O Carlson @ aol.com

**Please provide written comments on the reverse
 and drop this form into the comment box.**

**Proporcione por favor los comentarios escrito en el revés y colóque esta forma
 en la caja del comentario.**

**You may also address any written comments
 to the attention of:**

Dwight E. Sanders
 California State Lands Commission
 Division of Environmental Planning and
 Management
 100 Howe Avenue, Suite 100-South
 Sacramento, CA 95825
Include the State Clearinghouse number:
2004021107

**Comments may also be submitted via email
 to: BHPRevisedDEIR@slc.ca.gov**

**Usted puede dirigir también cualquier
 comentario escrito a la atención de:**

Dwight E. Sanders
 California State Lands Commission
 Division of Environmental Planning and
 Management
 100 Howe Avenue, Suite 100-South
 Sacramento, CA 95825
Incluir el número de State Clearinghouse:
2004021107

**Los comentarios también se pueden enviar
 por correo electrónico a:**
BHPRevisedDEIR@slc.ca.gov

**All comments must be received
by 5 p.m. Pacific Time, May 12, 2006**

**Todos los comentarios debe ser recibido
por 5 de la tarde, hora Pacífico, el 12 de mayo de 2006**

Comments/Comentarios (Use additional sheets if necessary/Puede utilizar
hojas adicionales si es necesario):

See attached.

No action will be taken until the environmental review process is completed.

No se tomará ninguna acción hasta que el proceso de revisión ambiental se haya terminado.

Here is what you will destroy if this or *any* of the proposed LNG facilities are built and ships are docked ~~to be~~ visible on a clear day from Point Mugu south to Malibu....

This stretch of Southern California coastline offers the ONE PLACE for millions of people to enjoy A VIEW of the ocean and islands that is not marred by buildings, train tracks, or a freeway.

This is it.... Here is what remains of natural surroundings along the coast, within hours of us in each direction. Here, where the mountains meet the sea, we camp, hike, drive along the shore, fish, whale watch, and just sit and contemplate.

It will be tremendously stupid to ruin our last natural viewshed. Don't take it away from us and from our next generations.

*in
Southern
California*

*Jane Carlson
21403 Greenbluff Dr.
Topanga CA 90290*

P204-1

P204-1

Section 4.4 and Appendix F contain information on visual resources, impacts, and mitigation. Appendix F describes how visibility from various distances was evaluated and provides additional simulations prepared for viewpoints at elevated sites along the Malibu coastline and inland areas.

P204-2

P204-2

Section 4.15.4 contains information on potential impacts on recreational activities. The FSRU is not located in or near any park or recreational area. The boundary of the Channel Islands National Park is more than 17 NM away at its closest point on Anacapa Island. Table 2.1-2 contains additional information on distances from the FSRU to points-of-interests and the potential expansion of the CINMS. The Santa Monica Mountains National Recreation Area is more than 12 NM away from the FSRU, as are all other State parks and recreations areas. The only recreational facility crossed by the proposed onshore pipelines is the multi-use trail along the South Fork Santa Clara River in Santa Clarita, which would be temporarily affected during construction but restored afterwards. Appendix F contains additional view simulations from recreation areas.

P204-3

P204-3

Figure 2.1-2 shows the locations of selected existing offshore industrial facilities and activities, including the coastwise traffic lanes, in relation to the proposed Project. Table 4.3-1 contains information on the number and representative sizes of vessels transiting the Project area. The FSRU would be removed at the end of its in-service life (40 years), as discussed in Section 2.8.1.

Your statement is included in the public record and will be taken into account by decision-makers when they consider the proposed Project.

To view the responses to this letter, go to "Index--Read this First" and select "2006 Letters--Form Letter."

April 19, 2006

Dwight Sanders
State lands commission,
100 Howe Avenue
Suite 100 South
Sacramento California 95825-8202

Re: Stop Cabrillo Port LNG

Dear Mr. Sanders,

Please stop Cabrillo port LNG industrial plant from progressing any further in the permit process. California law prohibits industrial intrusion on highly scenic areas. The last remaining wild areas on the Southern California Coast will be permanently despoiled if this industrial plant is installed. In fact over 10 national parks, national recreation areas, state, city and county parks will be despoiled. This would forever impact the quality of life of the areas residents and negatively impact the millions of visitors who come to hike and enjoy the seashore. In addition, federal and state governments own studies show that this project would:

- result in both short term and long term adverse impacts to the coast and it's residents.
- Increase smog levels (tons of pollutants spewing directly upwind from our houses, beaches and hiking trails.
- contain 14 story high pollution spewing industrial towers with lines of support ships which forever will be our new horizon. This towers will be brightly lit at night being a 24 hour eye sore .
- harbor the possibility of a 14 mile wide explosive flash fire due to an accident of terrorist attack.
- be visible from all elevations in malibu from downtown Malibu all the way to Port Hueneme.
- require a "security zone" of 2.3 miles around it. (to protect from terrorism, accidents etc) which is in the same shipping channel where 10,000. container ships and oil tankers use annually.

There are many more negative impacts than the above "official" ones disclosed by the federal and state study.

PLEASE do not allow this to go forward. We, the citizens of Southern California will fight this project until it is derailed. Our money and time can be spent on projects that truly will improve the quality of life in Southern California rather than just provide an opportunity for foreign Companies to sell us gas that they and we do not need.

Sincerely,

Jane O. Carlson
Jane O. Carlson
21403 Greenbluff Dr.
Topanga, CA 90290

*I'm also a Malibu
property owner.*

From: BretCarter@aol.com
Sent: Saturday, May 06, 2006 10:33 AM
To: BHPRevisedDEIR@slc.ca.gov
Subject: Say No to the LNG Terminal

This is to urge you to just say NO to the offshore Liquified Natural Gas Terminal. It is unnecessary, too costly, just a way for foreigners to get rich and a gigantic terrorist target. Not to mention the damage it will do to our ocean and environment even if it performs the way it is promised to perform and we all know it will NEVER do that.

Just say NO!

Bret Carter
310/994-5202

P042-1

Your statement is included in the public record and will be taken into account by decision-makers when they consider the proposed Project.

P042-2

Table 4.2-2 and Sections 4.2.6.1 and 4.2.7.6 contain information on the threat of terrorist attacks.

P042-3

Section 4.7.4 discuss the Project's potential impacts to the marine environment. Sections 4.5.4, 4.6.4, 4.8.4, 4.11.4, and 4.18.4 discuss impacts to the terrestrial environment and mitigation measures to prevent or mitigate the effects to the environment.

Sections 4.2.4, 4.2.7.3, and 4.2.8.2 identify agencies with the authority and responsibility for safety standards, design reviews, and compliance inspections. Section 2.1 and Appendix C3-2 identify applicable safety standards.

4-26-06

Lawrence R. Carter
2875 Ventura Blvd.
Oxnard, CA 93036

Mr. Dwight E. Sanders
California State Lands Commissions
Div. of Environment Planning & Management
100 Howe Ave., Suite 100 South
Sacramento, CA 95825

Cabrillo Port 2004021107

Dear Mr. Sanders:

The need for energy in this state is at an all time high. Without action to find a source that will meet California's needs in the future, we are headed for major problems.

While we must continue to do everything possible to develop alternative sources of energy, our dependence on natural gas will only increase, as it is a practical, clean burning alternative to other fossil fuels. Without more natural gas, I believe we will create another situation similar to the rolling blackouts that occurred only a few years ago.

Japan is the most seismically active area in the world. Japan has 24 of its existing 40 LNG terminals located near highly populated major cities. Negishi was the first LNG terminal built in 1969. Six LNG terminals were built in the 70's and Japan began receiving LNG shipments. Japan built six terminals in the 80's and ten more in the 90's.

Korea has 4 LNG terminals and has been importing since 1986.

From 1952 to present LNG ships have made more than 33,000 voyages worldwide and transported over 3 Billion cubic meters of LNG. There have been NO shipboard cargo explosions, shipboard fires, or shipboard deaths from LNG.

So it looks like LNG has a safe history, the people that are against this proposal are typical NIMBY's. They just throw in other items to cloud the issue, like pollution from construction of the pipe lines and operation of the receiving station,

V228-1

Your statement is included in the public record and will be taken into account by decision-makers when they consider the proposed Project.

V228-1

V228-1 Continued

V228-1
Continued

terrorist threats, tsunamis, sounds like the typical the sky is falling ploy. One person even complained about dust in the air from the construction, I guess they have not been through the East wind season we have in this area. We have more dust from them then we will ever have from digging a ditch.

We have had natural gas pipe lines under our streets for over 100 years, and the only time you hear about them is when some one digs a hole and hits one. They did not call Dig Alert. I live within 1/4 mile of a 30" 450 psi. gas line, which has been in place for over 35 years, and the general population does not even know it exists. Not even people who live with in 30 feet of it.

I think it is a good idea to locate this LNG receiving station off shore.

I think we could go back to the horse and buggy days, but we would be up to our necks in horse manure. We could stop using natural gas to heat our homes, which is a clean burning fuel, because of the high price, and go back to burning wood and coal, which we have plenty of. But some one would be complaining about the air pollution from the smoke that wood and coal produced.

I see that some people want more alternative energy like wind power, we have some but not enough. Some people tried to place some wind machines off the coast of Massachusetts, but the liberals stopped that because it would ruin their ocean view. Typical NIMBY's. Also the animal rights people claim that the windmill blades kill birds.

I read in the paper that Oxnard Councilman Tim Flynn said that we should stop our dependence on foreign oil. I think that's a great idea. We should be drilling where we know there is oil, off the coast of California, Florida, Texas, Gulf of Mexico, the East Coast, and in the Arctic National Wildlife Refuge In Alaska. But the Environmentalist Wackos do not want to drill there.

The cars we drive now can be converted to run on CNG that would help with the high prices that we are paying for gasoline, over \$3.00 a gal. I have read that when they come out with Fuel Cell autos that they are planning to make hydrogen fuel from natural gas. There are also diesel cars that get over 50 mpg, but can not be sold in California.

Thank you,



Lawrence R. Carter

To view the responses to this letter, go to "Index--Read this First" and select "2006 Letters--Form Letter."

April 19, 2006

Dwight Sanders
State lands commission,
100 Howe Avenue
Suite 100 South
Sacramento California 95825-8202

Re: Stop Cabrillo Port LNG

Dear Mr. Sanders,

Please stop Cabrillo port LNG industrial plant from progressing any further in the permit process. California law prohibits industrial intrusion on highly scenic areas. The last remaining wild areas on the Southern California Coast will be permanently despoiled if this industrial plant is installed. In fact over 10 national parks, national recreation areas, state, city and county parks will be despoiled. This would forever impact the quality of life of the areas residents and negatively impact the millions of visitors who come to hike and enjoy the seashore. In addition, federal and state governments own studies show that this project would:

- result in both short term and long term adverse impacts to the coast and it's residents.
- Increase smog levels (tons of pollutants spewing directly upwind from our houses, beaches and hiking trails.
- contain 14 story high pollution spewing industrial towers with lines of support ships which forever will be our new horizon. This towers will be brightly lit at night being a 24 hour eye sore .
- harbor the possibility of a 14 mile wide explosive flash fire due to an accident of terrorist attack.
- be visible from all elevations in malibu from downtown Malibu all the way to Port Hueneme.
- require a "security zone" of 2.3 miles around it. (to protect from terrorism, accidents etc) which is in the same shipping channel where 10,000. container ships and oil tankers use annually.

There are many more negative impacts than the above "official" ones disclosed by the federal and state study.

PLEASE do not allow this to go forward. We, the citizens of Southern California will fight this project until it is derailed. Our money and time can be spent on projects that truly will improve the quality of life in Southern California rather than just provide an opportunity for foreign Companies to sell us gas that they and we do not need.

Sincerely,



Tiffany Carver
1101 Ocean Front Walk
Venice CA 90045

To view the responses to this letter, go to "Index--Read this First" and select "2006 Letters--Form Letter."

April 19, 2006

Dwight Sanders
State lands commission,
100 Howe Avenue
Suite 100 South
Sacramento California 95825-8202

Re: Stop Cabrillo Port LNG

Dear Mr. Sanders,

Please stop Cabrillo port LNG industrial plant from progressing any further in the permit process. California law prohibits industrial intrusion on highly scenic areas. The last remaining wild areas on the Southern California Coast will be permanently despoiled if this industrial plant is installed. In fact over 10 national parks, national recreation areas, state, city and county parks will be despoiled. This would forever impact the quality of life of the areas residents and negatively impact the millions of visitors who come to hike and enjoy the seashore. In addition, federal and state governments own studies show that this project would:

- result in both short term and long term adverse impacts to the coast and it's residents.
- Increase smog levels (tons of pollutants spewing directly upwind from our houses, beaches and hiking trails.
- contain 14 story high pollution spewing industrial towers with lines of support ships which forever will be our new horizon. This towers will be brightly lit at night being a 24 hour eye sore.
- harbor the possibility of a 14 mile wide explosive flash fire due to an accident of terrorist attack.
- be visible from all elevations in malibu from downtown Malibu all the way to Port Hueneme.
- require a "security zone" of 2.3 miles around it. (to protect from terrorism, accidents etc) which is in the same shipping channel where 10,000. container ships and oil tankers use annually.

There are many more negative impacts than the above "official" ones disclosed by the federal and state study.

PLEASE do not allow this to go forward. We, the citizens of Southern California will fight this project until it is derailed. Our money and time can be spent on projects that truly will improve the quality of life in Southern California rather than just provide an opportunity for foreign Companies to sell us gas that they and we do not need.

Sincerely,



ERIKA CASPER

3949 1/2 Las Flores Canyon Rd. Malibu. CA 90265

To view the responses to this letter, go to "Index--Read this First" and select "2006 Letters--Form Letter."

April 19, 2006

Dwight Sanders
State lands commission,
100 Howe Avenue
Suite 100 South
Sacramento California 95825-8202

Re: Stop Cabrillo Port LNG

Dear Mr. Sanders,

Please stop Cabrillo port LNG industrial plant from progressing any further in the permit process. California law prohibits industrial intrusion on highly scenic areas. The last remaining wild areas on the Southern California Coast will be permanently despoiled if this industrial plant is installed. In fact over 10 national parks, national recreation areas, state, city and county parks will be despoiled. This would forever impact the quality of life of the areas residents and negatively impact the millions of visitors who come to hike and enjoy the seashore. In addition, federal and state governments own studies show that this project would:

- result in both short term and long term adverse impacts to the coast and it's residents.
- Increase smog levels (tons of pollutants spewing directly upwind from our houses, beaches and hiking trails.
- contain 14 story high pollution spewing industrial towers with lines of support ships which forever will be our new horizon. This towers will be brightly lit at night being a 24 hour eye sore.
- harbor the possibility of a 14 mile wide explosive flash fire due to an accident of terrorist attack.
- be visible from all elevations in malibu from downtown Malibu all the way to Port Hueneme.
- require a "security zone" of 2.3 miles around it. (to protect from terrorism, accidents etc) which is in the same shipping channel where 10,000. container ships and oil tankers use annually.

There are many more negative impacts than the above "official" ones disclosed by the federal and state study.

PLEASE do not allow this to go forward. We, the citizens of Southern California will fight this project until it is derailed. Our money and time can be spent on projects that truly will improve the quality of life in Southern California rather than just provide an opportunity for foreign Companies to sell us gas that they and we do not need.

Sincerely,



ERIKA CASPER

3949 1/2 Las Flores Canyon Rd. Malibu. CA 90265

From: Norene Charnofsky [charnofskyn@vcss.k12.ca.us]
 Sent: Friday, May 12, 2006 6:55 PM
 To: BHPRevisedDEIR@slc.ca.gov
 Subject: BHP Billiton

To Whom It MaY Concern at State Lands Commission:

This is to register my total opposition to the Liquid Natural Gas Terminal off the Oxnard Coast proposed by BHP Billiton. Ventura County does not need this facility. It would put marine life at risk. It would pollute the ocean and the atmosphere. We do not need more pollution. We are already dealing with polluted air in the greater Los Angeles area that is twice as dirty as the rest of the country. We do not have compelling evidence that California needs Liquid Natural Gas.

Sincerely,
 Norene M. Charnofsky
 10180 Norwalk St.
 Ventura, CA 93004

P091-1

Your statement is included in the public record and will be taken into account by decision-makers when they consider the proposed Project.

P091-2

This topic is discussed in Section 4.7.

P091-3

The Project has been modified since issuance of the March 2006 Revised Draft EIR. See Section 1.4.2 for a summary of Project changes. Section 4.6.1.3 contains revised information on Project emissions and proposed control measures. Section 4.6.4 discusses the health effects attributed to air pollutants and includes revised impacts and mitigation measures.

P091-4

Section 1.2.3 contains updated information on natural gas needs in California. Forecast information has been obtained from the California Energy Commission.

| P091-1

| P091-2

| P091-3

| P091-4

From: Debra Chic [dchicy@hotmail.com]
Sent: Saturday, May 06, 2006 10:14 AM
To: BHPRRevisedDEIR@slc.ca.gov
Subject: Golf

V043-1

Your statement is included in the public record and will be taken into account by decision-makers when they consider the proposed Project.

Cant believe you would destroy part of Ca. coast for

G - O- L- F. A game.. Its a frick'in GAME.

V043-1

To view the responses to this letter, go to "Index--Read this First" and select "2006 Letters--Form Letter."

April 19, 2006

Dwight Sanders
State lands commission,
100 Howe Avenue
Suite 100 South
Sacramento California 95825-8202

Re: Stop Cabrillo Port LNG

Dear Mr. Sanders,

Please stop Cabrillo port LNG industrial plant from progressing any further in the permit process. California law prohibits industrial intrusion on highly scenic areas. The last remaining wild areas on the Southern California Coast will be permanently despoiled if this industrial plant is installed. In fact over 10 national parks, national recreation areas, state, city and county parks will be despoiled. This would forever impact the quality of life of the areas residents and negatively impact the millions of visitors who come to hike and enjoy the seashore. In addition, federal and state governments own studies show that this project would:

- result in both short term and long term adverse impacts to the coast and it's residents.
- Increase smog levels (tons of pollutants spewing directly upwind from our houses, beaches and hiking trails.
- contain 14 story high pollution spewing industrial towers with lines of support ships which forever will be our new horizon. This towers will be brightly lit at night being a 24 hour eye sore.
- harbor the possibility of a 14 mile wide explosive flash fire due to an accident of terrorist attack.
- be visible from all elevations in malibu from downtown Malibu all the way to Port Hueneme.
- require a "security zone" of 2.3 miles around it. (to protect from terrorism, accidents etc) which is in the same shipping channel where 10,000. container ships and oil tankers use annually.

There are many more negative impacts than the above "official" ones disclosed by the federal and state study.

PLEASE do not allow this to go forward. We, the citizens of Southern California will fight this project until it is derailed. Our money and time can be spent on projects that truly will improve the quality of life in Southern California rather than just provide an opportunity for foreign Companies to sell us gas that they and we do not need.

Sincerely,



RANDOLPH T. CHALOS

26500 W AGOURA RD 102-334
CALABASSAS, CA 91302

From: Gary Cleland [malibudiver@verizon.net]
Sent: Friday, May 12, 2006 6:10 PM
To: BHPRevisedDEIR@slc.ca.gov
Subject: LNG plant off coast

Please excuse all the selfish and crazy people out here in Malibu. The plant won't affect them at all and they're willing to accept any negative comments about the plant. I'm a Malibu resident and ocean lover. If this project was really going to harm the ocean and beaches, I'd be the first to stand by them. The people of California need this clean fuel and I don't mind possibly seeing a couple of flickering lights at night out on the ocean FOURTEEN miles away!

Sincerely
Gary Cleland

V058-1

Your statement is included in the public record and will be taken into account by decision-makers when they consider the proposed Project.

V058-1

From: Joe Coakley [coakleys@sbcglobal.net]
 Sent: Friday, May 12, 2006 1:23 AM
 To: BHPRevisedDEIR@slc.ca.gov
 Subject: Do not approve BHP Billiton's Environmental Impact Report

May 11, 2006
 California State Lands Commission

To Whom it may concern:

I urge you not to approve BHP Billiton's Environmental Impact Report for their proposed offshore floating liquified natural gas terminal in Ventura county. It will become a significant source of marine pollution in the immediate area, threaten to disrupt marine mammal populations, not to mention being a monstrous eyesore.

My family and I love vacationing in that region and visiting the beautiful beaches in Ventura county. The existence of such a facility would definitely put a damper on that activity. I believe that my concern is shared by millions of tourists who visit this coastal region and bring billions of dollars in revenue to California.

Please don't let this international corporation, whose interest is only in profits and not in the long term health and beauty of our coastline, impose this LNG terminal on us.

Respectfully,

Joe Coakley
 11732 Casa Linda Ct.
 Dublin, CA 94568

P073-1

Your statement is included in the public record and will be taken into account by decision-makers when they consider the proposed Project.

P073-2

Sections 4.7.4 and 4.18.4 contain information on potential impacts and mitigation measures related to marine life and water quality.

P073-3

Section 4.4 and Appendix F contain information on visual resources, impacts, and mitigation. Appendix F describes how visibility from various distances was evaluated and provides additional simulations prepared for viewpoints at elevated sites along the Malibu coastline and inland areas.

P073-4

Section 4.15.4 contains information on potential impacts on recreational activities and mitigation measures to address such impacts. Section 4.4.4 evaluates potential aesthetic impacts on residents, tourists, and other recreational users. Section 4.15.1.1 evaluates impacts on offshore recreation. Section 4.16.1.2 contains information on tourism in Ventura County.

P073-5

Your statement is included in the public record and will be taken into account by decision-makers when they consider the proposed Project.

P073-1

P073-2

P073-3

P073-4

P073-5

From: Chuck and Marjorie Cole [twocoles@adelphia.net]
 Sent: Friday, April 21, 2006 11:12 AM
 To: BHPRevisedDEIR@slc.ca.gov
 Subject: Cabrillo Port LNG Terminal

Dear Dwight Sanders,

Please consider the consequences of allowing a foreign company to supply us with LNG.

1. This will aggravate our country's current critical balance of payments problem.
2. California's need for LNG has not been proven.
3. If we allow BHP Billiton to set up their floating terminal, we Americans will not solve our addiction to foreign fossil fuel.
4. LNG causes air and water pollution and will severely impact our marine environment.
5. BHP Billiton's Cabrillo Port project would create a potential terrorist target.
6. We are in an earthquake prone area.
7. This project would interfere with major shipping lanes. An accident would impact ships, recreational boaters and marine wildlife.
8. Just the daily discharges from Cabrillo Port will degrade ocean water and cause death to plankton such as fish eggs and larvae.
9. This project will impact low income and culturally diverse communities.
10. BHP Billiton already has a record of deaths and injuries caused at some of their other facilities.
11. The Cabrillo Port project is new and untried.
12. The project is exempt from requirements pertaining to smog emissions because it would be in federal waters. It would emit over 270 tons of smog-producing air pollution per year into the Oxnard area. Although the company has said it has found ways to cut down on these emissions, this is not in their current DEIR and the lowered emissions are still not acceptable.

As a homeowner in Port Hueneme, which is adjacent to Oxnard, and whose home is two blocks from the beach, I am asking you to use your influence to prevent allowing the Cabrillo Port project to become a reality. Please protect our sensitive ecosystem of the Channel Islands National Park and Marine Sanctuary and please consider what is important to our country's citizens. We want Americans to solve our problems and we want our officials to keep us safe from so many potential disasters.

Sincerely, Marjorie Cole, 325 Blue Dolphin Drive, Port Hueneme, CA 93041
 (805) 986-2873

P015-1

Section 1.2 discusses dependence on foreign energy sources.

P015-2

Section 1.2.3 discusses the need for LNG in California.

P015-3

Section 1.2.3 contains updated information on natural gas needs in California. Forecast information has been obtained from the California Energy Commission. In addition, Sections 3.3.1 and 3.3.2 address conservation and renewable energy sources, within the context of the California Energy Commission's 2005 Integrated Energy Report and other State and Federal energy reports, as alternatives to the Project. Section 1.2 discusses dependence on foreign energy sources.

P015-4

Sections 4.6.4, 4.18.4, and 4.7.4, respectively, address these topics.

P015-5

Table 4.2-2 and Sections 4.2.6.1 and 4.2.7.6 contain information on the threat of terrorist attacks.

P015-6

Sections 4.11.1 and 4.11.4 contains additional information on the potential for earthquakes. Appendices J2 and J3 contain reports on seismic and geologic hazards for the project.

P015-7

The FSRU would be located about 2 nautical miles from the seaward southbound coastwise traffic lane. See Figure 2.1-2. Given this distance, its presence, under normal operating conditions, would not interfere with operations in the TSS. The IRA (Appendix C1) concludes that impact distances from accidental releases and intentional events would not reach the nearest shoreline and that the members of the public who would be at risk would be those in the vicinity of the FSRU or in the coastal shipping lanes. The IRA recommends specific mitigation measures to reduce the risks to as low as reasonably practical. Sections 4.7.4 and 4.15.4 address impacts to marine biology and recreation.

P015-8

Sections 4.7.4 and 4.18.4 address impacts to marine biology and water quality.

P015-9

Sections 4.19.1 and 4.19.4 contain information on potential Project impacts on minority and low-income communities and mitigation measures to address such impacts.

P015-10

The Applicant is required to adhere to all applicable Federal, State, and local laws, regulations, and permit requirements in the execution of all phases of the Project. Section 4.2.6 states, "The environmental and occupational safety record for the Applicant's worldwide operations, including, for example, mining ventures overseas, was not considered in evaluating potential public safety concerns associated with this Project because such operations are not directly comparable to the processes in the proposed Project." The conclusions in the EIS/EIR are based on the analyses of potential environmental impacts of the proposed Project and the implementation assumptions stated in Section 4.1.7. However, the Applicant's safety and environmental record will be taken into account by decision-makers when they consider the proposed Project.

P015-11

Section 2.1 contains information on design criteria and specifications, final design requirements, and regulations governing the construction of the FSRU. The Cabrillo Port must be designed in accordance with applicable standards, and the U.S. Coast Guard has final approval. Section 4.2.4 contains information on Federal and State agency jurisdiction and cooperation. The Deepwater Port Act specifies regulations that all deepwater ports must meet; Section 4.2.7.3 contains information on design and safety standards for the deepwater port. Section 4.2.8.2 contains information on pipeline safety and inspections. Impact EJ-1 in Section 4.19.4 addresses additional pipeline design requirements in areas of low-income and minority communities. The EIS/EIR's analyses have been developed with consideration of these factors and regulations and in full conformance with the requirements of NEPA and the CEQA.

P015-12

The EPA has made a preliminary determination that the FSRU should be permitted in the same manner as sources on the Channel Islands that are part of Ventura County. Section 4.6.2 discusses relevant regulatory requirements and Section 4.6.4 discusses emissions reduction programs.

P015-13

Your statement is included in the public record and will be taken into account by decision-makers when they consider the proposed

Project.

P015-14

The boundary of the Channel Islands National Park is more than 17 NM away from the FSRU at its closest point on Anacapa Island. The boundary of CINMS is also more than 12 NM from the FSRU. Sections 4.7.4 and 4.8.4 evaluate potential impacts on the marine and terrestrial environments. Table 2.1-2 contains information on distances from the FSRU and these points-of-interest.

BEFORE THE MARITIME ADMINISTRATION
California State Lands Commission

In Re: Cabrillo Port LNG Deepwater)
 Port Project) State Clearinghouse Number:
) 2004021107

COMMENTS OF THE CENTER FOR LIQUEFIED NATURAL GAS

Pursuant to the Notice of Availability on the Draft Environmental Impact Statement, the Center for Liquefied Natural Gas (CLNG) files these comments.

IDENTIFICATION OF INTEREST:

On behalf of the Center for Liquefied Natural Gas (CLNG), we welcome the opportunity to submit comments on the risk assessment portion of the Revised Draft Environmental Impact Report (DEIR) prepared by the California State Lands Commission for the Cabrillo Port Liquefied Natural Gas Deepwater Port. The Center for LNG is a broad coalition of over 60 liquefied natural gas (LNG) producers, shippers, terminal operators and developers, trade associations and natural gas consumers, dedicated to the development of the North America LNG market. Its goals are to enhance public education and understanding of LNG by serving as a clearinghouse for LNG information and to foster development of public policies that support LNG's increasing contribution toward meeting the nation's energy needs and supporting economic growth.

COMMENTS:

CLNG is concerned that the DEIR puts forth a highly improbable "worst case" scenario and consequence analysis that grossly overstates the risks of the Cabrillo Port FSRU. The underlying theme of the Sandia Report of December 2004, "Guidance on Risk Analysis and Safety Implications of a Large Liquefied Natural Gas (LNG) Spill Over Water" is to develop guidance on safety and security steps that industry and government could take based on a risk-based approach to assess and quantify potential threats. Such an approach takes into account both the potential consequences of an event and the likelihood of its occurrence. Instead, the approach taken in the DEIR led to recommended requirements that are based only on the consequences of highly improbable events without considering the probability of the event.

The "worst case" events hypothesized in the DEIR, would almost certainly result in a pool fire in the vicinity of the FSRU and not the multi-mile vapor cloud postulated in the DEIR. The worst case scenario in the DEIR assumes that an intentional attack on the FSRU penetrates the two hulls of the FSRU and two storage tanks on the FSRU. This then results in a spill without immediate ignition that yields a vapor cloud dispersing for several miles before igniting. It strains credulity to assume that the high-powered

G005-1

NEPA does not require "worst-case analysis" but does require the agency to prepare a summary of existing relevant and credible scientific evidence and an evaluation of adverse impacts based on generally accepted scientific approaches or research methods. The lead agencies directed preparation of the Independent Risk Assessment (IRA), and the U.S. Department of Energy's Sandia National Laboratories independently reviewed it and concurred with the approach and conclusions, as discussed in Section 4.2 and Appendix C1. The approach focused on potential consequences of an accident and feasible mitigation because an accident can happen, no matter how unlikely. The IRA (Appendix C1) defines and evaluates representative worst credible cases (scenarios of events that would lead to the most serious potential impacts on public safety). The IRA also includes information on frequencies for the scenarios considered. As discussed in Section 4.2.6.1, which contains information on the frequency analysis, "(t)he frequency of probability of arson, intentional sabotage, or an intentional attack cannot be reliably estimated. However, consequences of an intentional attack on an LNG carrier or the FSRU and its associated pipelines are expected to be bracketed by the analyses of worst credible case scenarios, which were defined and evaluated without regard to the likelihood of any sequence of events that would lead to this event actually occurring. Thus, they would be no worse than the scenarios analyzed in the IRA."

Sections 2.1 and 4.2.7.3 contain information on design criteria and specifications, final design requirements, and regulations governing the construction of the FSRU and LNG carriers. Impacts PS-1 and PS-2 and Table 4.2-9 contain information on Applicant proposed measures (AMs) and the need for and effectiveness of other proposed mitigation. Most of these measures represent industry practices for design of structures handling hazardous materials.

G005-1

G005-2

As stated in Section 4.2.1, "given the many safety features that have been incorporated in the design of the proposed Project, accidents at the FSRU would be rare and would not reach shore, even in the case of a worst credible release such as a deliberate attack." Sandia National Laboratories identified the credible intentional threats evaluated in the IRA (see Appendix C2). Although a pool fire is likely, it is not guaranteed. As stated on Table 4.2-1, "(t)he escalation case was modeled as a pool fire resulting from a breach of secondary containment due to the effects of a fire. Since ignition is guaranteed, no dispersion cloud develops."

G005-2

weapons assumed to initiate the breach of the hulls and tanks would not lead to ignition sources that would result in a pool fire without the formation of a vast vapor cloud. A man-made event that is capable of creating a 7 m² hole in each of two tanks is expected to ignite the release immediately. As the DEIR notes about Sandia's 2004 study, "One of Sandia's key assumptions for developing zones of concern was that the potential for a pool fire from an intentional breach would be likely because of the high probability of an ignition source would be available...." Dispersion of a multi-mile vapor cloud until ignition is not a credible scenario for assessing the risk of an FSRU.

Furthermore, the assumption concerning the total release of the LNG from the two tanks is unrealistic. If a breach occurs above the waterline of the tank, then only the LNG above the waterline could spill. If the breach occurs below the waterline, the physics underlying the spill are much more complex than assumed in the DEIR. There would be a much slower release and smaller pool than assumed in the DEIR. Moreover, the errors introduced by the assumption of a complete release are compounded by the use of a release of LNG (100,000 m³) from a LNG storage tank that is greater than the LNG that can actually be stored in any single LNG storage tank (91,000 m³) on the FSRU. Lastly, even with unrealistic assumptions about an LNG release, Sandia calculates a worst case vapor dispersion that is almost 40% less than the distance reported in the DEIR that is now being widely quoted in the press.

Consequence and likelihood must be thoroughly evaluated in a true risk assessment, yet the focus of the DEIR is almost exclusively on consequences from highly improbable events. The DEIR implies that a "risk" assessment had been performed; yet, the Independent Risk Assessment (IRA) is focused almost entirely on "consequence analysis." The IRA paid far too little attention to the likelihood of occurrence, which is extremely low for the events that lead to the hypothesized consequences. In fact the IRA should really **not** be characterized as a "Risk Assessment" but rather it should be labeled a "Hazard Assessment," as there is almost no discussion of the likelihood of modeled events in the Executive Summary, except to say that events are "improbable."

While the extremely low likelihood of the hypothesized initiating events that could lead to the hypothesized scenarios is touched upon in the DEIR, the implication that such events are "improbable" is buried beneath extensive discussion of consequences. For example, the IRA does note that "accidental marine collisions are improbable" and that a worst case accidental scenario of a collision that could breach both hulls of the FSRU and the wall of a storage tank would have the probability of occurring once every 417,000 years. Moreover, the study speculates about the possibility of a vapor cloud explosion if the spill occurs between an unloading ship and FSRU without noting that such an LNG vapor cloud explosion has never occurred nor ever been demonstrated in scientific tests. With respect to the speculation about terrorist interest in the FSRU, the IRA recognized the existence of many unprotected (soft), readily accessible targets where large numbers of people regularly gather that are therefore more attractive targets, "e.g., the stands at the local football or soccer stadium."

G005-3

G005-3

The IRA evaluates potential incidents resulting from both accidents and intentional events. These included accidents that would affect one, two, or all three tanks of the FSRU. As shown in Tables 4.2-1, 4.2-2, 4.2-7, and 4.2-8, the release of the contents of all three tanks (the entire contents of the FSRU and an attending LNG carrier) is addressed in the escalation scenario associated with a large intentional event. Section 4.2.7.6 contains additional information on how intentional events are addressed. Although the 2006 Sandia National Laboratories third-party technical review of the 2004 IRA found that the three-tank simultaneous release (a massive LNG release in a short time period) was not credible, a cascading three-tank scenario was added with Sandia's concurrence based on the results of its analysis. As discussed on Table 4.2-1, the use of 100,000 cubic meters instead of 91,000 cubic meters is used for ease of calculations and its use is, therefore, a conservative approximation more pertinent than, for example, rounding down to 90,000 cubic meters.

G005-4

G005-4

The lead agencies directed preparation of the Independent Risk Assessment (IRA), and the U.S. Department of Energy's Sandia National Laboratories independently reviewed it, and concurred with the approach and conclusions, as discussed in Section 4.2 and Appendix C2. The approach focused on potential consequences of an accident and feasible mitigation because an accident can happen, no matter how unlikely. The IRA (Appendix C1) defines and evaluates representative worst credible cases (scenarios of events that would lead to the most serious potential impacts on public safety). The IRA also includes information on frequencies for the scenarios considered.

G005-5

G005-5

The IRA (Appendix C1) defines and evaluates representative worst credible cases (scenarios of events that would lead to the most serious potential impacts on public safety) based on the recommendations of Sandia National Laboratories. The IRA also includes information on frequencies for the scenarios considered. The executive summary states "given the many safety features that have been incorporated in the design of the proposed Project, accidents at the FSRU would be rare and would not reach shore, even in the case of a worst credible release such as a deliberate attack..." It also states that "(t)he IRA did not estimate frequencies of intentional acts, due to great uncertainties in such estimates." It indicates that although the three-tank scenario is credible, "more likely scenarios would lead to smaller pool fire hazards." The executive summary also states that "...the Moss tank design

demonstrates a very robust design against marine collisions. Only vessels with very specific geometry, strength, and speed have the physical capacity to penetrate the hull's structural steel and breach the cargo containment. The IRA concludes that accidental marine collisions are improbable." Section 4.2.6.1 contains information on the frequency analysis, which is also described in the IRA for each scenario (see Appendix C1).

In addition to the use of improbable worst case spills, inappropriately-conservative modeling of the physics leads to over-estimation of the resulting pool sizes and fire hazard zones. Examples of such problems include:

- the evaporation flux is low for a realistic spill
- the effect of wind in tilting the flame of a pool fire is not considered
- the constant atmospheric transmissivity is too high and it should decline with distance from the center of the pool
- the use of the Moorhouse flame height correlation with an incorrect exponent
- the emissive power of the flame is too high
- failure to take into account LNG-water turbulence
- failure to take into account smoke in reducing the emissive radiation
- the dispersion modeling ignores atmospheric humidity, which has a major influence in the case of LNG dispersion
- misapplication of the vapor fire model (by Raj and Emmons) in DEIR

The DEIR highlights use of a CFD model, yet this does not guarantee valid estimates because in this case the underlying physics is overly conservative and the scenarios are not credible.

These highly improbable scenarios and the overly conservative modeling should not be used to develop design criteria for LNG facilities, as the DEIR suggests. Airplanes are not designed to withstand worst case scenarios that have the potential for much higher casualties, for passengers and the public. As individuals and as a society, we all understand the potential consequences of flying, but willingly accept this risk as a catastrophic airline incident is very unlikely to happen due to the engineering, prevention and mitigation steps in place. Similarly, subways continue to run despite the high consequences of collisions, terrorist attacks, and fires. CLNG is concerned that the DEIR includes language that could be used to mandate specific engineering requirements for the FSRU based on the consequences of highly improbable scenarios, rather than the readily available and more appropriate representation of the risk associated with the proposed facility.

CONCLUSION:

In conclusion, the DEIR focuses on the consequences and not the likelihood of occurrence of certain highly improbable scenarios. Erroneous and misleading projections of pool size and fire hazard zones are then calculated based on overly conservative assumptions regarding release rates, volumes and other scientific parameters. The DEIR does a disservice to the public by including non-credible scenarios and erroneous calculations and a disservice to the LNG industry by proposing to make those scenarios the basis for safety and security planning for this project.

G005-6

G005-6

The lead agencies directed preparation of the Independent Risk Assessment (IRA), and the U.S. Department of Energy's Sandia National Laboratories (SNL) independently reviewed it, as discussed in Section 4.2 and Appendix C. Section 4.2.7.6 and the IRA (Appendix C1) contain information on the models and assumptions used and the verification process. SNL (Appendix C2) concluded that the models used were appropriate and produced valid results:

The evaporation rate used was in accordance with SNL recommendations to maintain conservative results;

The pool fire had no flame tilt due to the diameter and the wind speed;

The atmospheric transmissivity used is conservative for all distances;

G005-7

The coefficient is incorrect in the SPFE Handbook, 3rd Edition. The report states this and the work used the correct coefficient. SNL also agrees that the book has the wrong coefficient;

G005-8

The emissive power used was in accordance with SNL recommendations. LNG pool formation was taken to happen on a smooth water surface;

LNG-water turbulence would act to reduce the pool size slightly and thereby not produce a conservative result;

The emissive power used is based on an LNG pool fire, which has the associated smoke already taken into account;

The appropriate air density was used in the modeling of the methane dispersion; and

G005-9

The vapor cloud model used the maximum cloud height for all locations in which the cloud was located. This is a conservative assumption for all distances.

G005-7

See the response to Comments G005-1 through G005-6.

G005-8

Section 2.1 contains information on design criteria and specifications, final design requirements, and regulations governing the construction of the FSRU. The Cabrillo Port must be designed

in accordance with applicable standards, and the U.S. Coast Guard has final approval. Section 4.2.4 contains information on Federal and State agency jurisdiction and cooperation. The Deepwater Port Act specifies performance levels that all deepwater ports must meet; Section 4.2.7.3 contains information on deepwater port design and safety standards.

G005-9

Your statement is included in the public record and will be taken into account by decision-makers when they consider the proposed Project.

CLNG is committed to working with government agencies and regulators to manage the risks associated with LNG operations. We appreciate the opportunity to comment on the DEIR.

Respectfully submitted,

A handwritten signature in dark ink, reading "William S. Cooper III". The signature is fluid and cursive, with the last name "Cooper" being more prominent and the "III" written as a small superscript.

William S. Cooper, III
Executive Director
The Center for Liquefied
Natural Gas
c/o Hunton & Williams LLP
1900 K Street, NW
Washington, D.C. 20006
(202) 955-1577
wcooper@hunton.com
www.lngfacts.org

DATED: May 10, 2006

From: Kathy Coughlin [kathys-mail@sbcglobal.net]
Sent: Thursday, April 13, 2006 2:45 PM
To: BHPRevisedDEIR@slc.ca.gov
Subject: Support for Cabrillo Port

Mr. Dwight Sanders
California State Lands Commission
Division of Environmental Planning and Management
100 Howe Ave., Suite 100-South
Sacramento, CA 95825-8202

RE: Cabrillo Port LNG Terminal
State Clearinghouse No. 2004021107

Dear Mr. Sanders,

I hope you will give strong consideration to the Cabrillo Port LNG Deepwater Port. The facility would bring in much needed natural gas supplies to the state, which would help to keep prices from rising.

I appreciate the time and effort that the State Lands Commission has put into evaluating this project. Please approve Cabrillo Port so we don't have to go through another winter of higher gas bills.

Thank you,

Kathy Coughlin

V006-1

Your statement is included in the public record and will be taken into account by decision-makers when they consider the proposed Project.

V006-1

P387

2006/P387

To view the responses to this letter, go to "Index--Read this First" and select "2006 Letters--Form Letter."

April 19, 2006

Dwight Sanders
State lands commission,
100 Howe Avenue
Suite 100 South
Sacramento California 95825-8202

Re: Stop Cabrillo Port LNG

Dear Mr. Sanders,

Please stop Cabrillo port LNG industrial plant from progressing any further in the permit process. California law prohibits industrial intrusion on highly scenic areas. The last remaining wild areas on the Southern California Coast will be permanently despoiled if this industrial plant is installed. In fact over 10 national parks, national recreation areas, state, city and county parks will be despoiled. This would forever impact the quality of life of the areas residents and negatively impact the millions of visitors who come to hike and enjoy the seashore. In addition, federal and state governments own studies show that this project would:

- result in both short term and long term adverse impacts to the coast and it's residents.
- Increase smog levels (tons of pollutants spewing directly upwind from our houses, beaches and hiking trails.
- contain 14 story high pollution spewing industrial towers with lines of support ships which forever will be our new horizon. This towers will be brightly lit at night being a 24 hour eye sore.
- harbor the possibility of a 14 mile wide explosive flash fire due to an accident of terrorist attack.
- be visible from all elevations in malibu from downtown Malibu all the way to Port Hueneme.
- require a "security zone" of 2.3 miles around it (to protect from terrorism, accidents etc) which is in the same shipping channel where 10,000. container ships and oil tankers use annually.

There are many more negative impacts than the above "official" ones disclosed by the federal and state study.

PLEASE do not allow this to go forward. We, the citizens of Southern California will fight this project until it is derailed. Our money and time can be spent on projects that truly will improve the quality of life in Southern California rather than just provide an opportunity for foreign Companies to sell us gas that they and we do not need.

Sincerely,

Dietrich Courte'
2683 Rambla Pacifico
Malibu, CA 90265



To view the responses to this letter, go to "Index--Read this First" and select "2006 Letters--Form Letter."

April 19, 2006

Dwight Sanders
State lands commission,
100 Howe Avenue
Suite 100 South
Sacramento California 95825-8202

Re: Stop Cabrillo Port LNG

Dear Mr. Sanders,

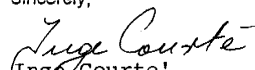
Please stop Cabrillo port LNG industrial plant from progressing any further in the permit process. California law prohibits industrial intrusion on highly scenic areas. The last remaining wild areas on the Southern California Coast will be permanently despoiled if this industrial plant is installed. In fact over 10 national parks, national recreation areas, state, city and county parks will be despoiled. This would forever impact the quality of life of the areas residents and negatively impact the millions of visitors who come to hike and enjoy the seashore. In addition, federal and state governments own studies show that this project would:

- result in both short term and long term adverse impacts to the coast and it's residents.
- Increase smog levels (tons of pollutants spewing directly upwind from our houses, beaches and hiking trails.
- contain 14 story high pollution spewing industrial towers with lines of support ships which forever will be our new horizon. This towers will be brightly lit at night being a 24 hour eye sore.
- harbor the possibility of a 14 mile wide explosive flash fire due to an accident of terrorist attack.
- be visible from all elevations in malibu from downtown Malibu all the way to Port Hueneme.
- require a "security zone" of 2.3 miles around it. (to protect from terrorism, accidents etc) which is in the same shipping channel where 10,000. container ships and oil tankers use annually.

There are many more negative impacts than the above "official" ones disclosed by the federal and state study.

PLEASE do not allow this to go forward. We, the citizens of Southern California will fight this project until it is derailed. Our money and time can be spent on projects that truly will improve the quality of life in Southern California rather than just provide an opportunity for foreign Companies to sell us gas that they and we do not need.

Sincerely,


Inge Courte
2683 Rambla Pacifico
Malibu, California 90265



*Protecting
the living
environment
of the
Pacific Rim*

G202

Comments on Cabrillo Port LNG Deepwater Port Revised Draft EIR

State Clearinghouse Number: 2004021107

Pacific Environment is a non-profit organization based in San Francisco, CA. We are the leading facilitator of the coalition Ratepayers for Affordable Clean Energy (RACE), a coalition of 20 organizations representing coastal communities and clean energy advocates from Mexico to Oregon. Pacific Environment is in agreement with the project-specific comments provided by the Environmental Defense Center, particularly in light of the fact, as spelled out in the following pages, that California does not need LNG to meet its energy demand.

We are very concerned with the current push to import LNG into California. We do not feel this is based on need, but rather is a move by a multi-national industry to profit off of our energy needs by committing us to long term LNG contracts. The focus of these comments will be on the presumed need for LNG that is alluded to in the EIR.

Please feel free to contact me if you have any questions or concerns with the comments on the following pages. Thank you for your consideration.

Rory Cox
California Program Director
Phone: 415.399.8850 x302
Email: rc Cox@pacificenvironment.org

G202-1

Sections 1.2.2 and 1.2.3 contain updated information on natural gas needs in the U.S. and California. Forecast information has been obtained from the U.S. Department of Energy's Energy Information Agency and from the California Energy Commission.

G202-1

1. Economic impact of LNG – Section 1.2.3 indicates that “...today’s high natural gas prices reflect declining supplies, increased competition from other states to satisfy the regional natural gas demand, and the dominant effect the U.S. natural gas market has upon California prices.”

Presumably, this passage was written when natural gas was selling at over \$15 MMBTU. The price has since reduced by more than half of its December ’05 peak, to \$7 MMBTU, and it continues to drop. A recent report published by the Midwest Attorneys General Natural Gas Working Group concludes that the run-up in price has very little to do with “declining supplies.” As the report details, supply and demand of natural gas through the 2005-2006 winter are about where they have been for the last two years, while gas in storage is at or near record levels. Even though the supply-demand ratios are similar to the ’04-’05 winter, the laws of supply and demand would indicate similar gas prices. Yet prices were up over 60 percent at the wellhead and in the spot market.

The report summarizes a poorly regulated trading regime that defies the usual laws of supply and demand:

First, the widespread reliance on natural gas commodity markets to set the price paid by consumers is an extremely recent phenomenon, just over 15 years old. As evidenced by the wild, irrational swings in natural gas prices, these new markets have not worked well. They are deemed to be “inefficient” in technical academic studies and have a history of manipulation, abuse and misreporting.

Second, natural gas has supply and demand characteristics that make it vulnerable to abuse and volatility, yet the markets in which wholesale natural gas prices are set are less regulated than many other commodity markets. Many in the industry believe these markets lack transparency and are vulnerable to abuse and manipulation. Regulators have failed to lay these concerns to rest because the vast majority of gas trading is subject to little monitoring or oversight. While regulators and policymakers have been scrambling to reform the market rules for this commodity, they have yet to impose comprehensive oversight and accountability.

Physical market fundamentals—a tight supply/demand balance—are not adequate to explain either the short-term or long-term behavior of natural gas prices. This does not mean that tight markets do not matter—of course they do—but identifying physical market fundamentals is only the beginning of the story, not the end.²

There is no evidence that LNG will have a downward effect on energy costs in California. In fact, it’s likely that energy costs will rise due to a simple fact: The

G202-2

G202-2

Sections 1.2.2 and 1.2.3 contain updated information on natural gas needs in the U.S. and California. Forecast information has been obtained from the U.S. Department of Energy’s Energy Information Agency and from the California Energy Commission (CEC). As discussed in Section 1.2.1, the CEC and California Public Utilities Commission (CPUC) must “carry out their respective energy-related duties based upon information and analyses contained in a biennial integrated energy policy report adopted by the CEC.”

As discussed in Section 1.2.3, the CEC’s 2005 Integrated Energy Policy Report Committee Final Report provides the energy context for California’s natural gas needs as identified in this EIS/EIR. The California Legislature recognizes that the CEC is the State’s principal energy policy and planning organization and that the CEC is responsible for determining the energy needs of California. These responsibilities are established in State law (the Warren-Alquist State Energy Resources Conservation and Development Act [Public Resources Code, Division 15]).

¹ Cooper, Mark. *The Role of Supply, Demand and Financial Commodity Markets in the Natural Gas Price Spiral*. Prepared for Midwest Attorneys General Natural Gas Working Group. Washington, DC. Consumer Federation of America. March 2006. Page 4 – 6.

² Cooper, Mark. *The Role of Supply, Demand and Financial Commodity Markets in the Natural Gas Price Spiral*. Prepared for Midwest Attorneys General Natural Gas Working Group. Washington, DC. Consumer Federation of America. March 2006. Page 3.

production cost of LNG, from \$3.50 to over \$4 per MMBTU, is significantly higher than that of domestic natural gas, which is well under \$3 per MMBTU.

In addition, dependence on LNG will make the state's ratepayers vulnerable to the even more complex vagaries of international gas trading regimes. California will be competing on price and supply with markets around the Pacific Rim, including Japan, China, South Korea, and India. All of these markets are investing in greater LNG capacity. While it's impossible to predict the future price of LNG, all indications are that it will go up.

According to Wall Street energy analyst Andrew Weissman,

...even if a number of these proposed new (LNG) mega-projects are completed, other countries may outbid the U.S. for all or most of the available output from some or all of the projects that come on line in the next 5 or 10 years. Notwithstanding these obvious risk factors, the feasibility and potential costs, benefits and risks of a strategy for meeting future U.S. energy needs that depends heavily on being able to massively increase net imports of LNG have never been carefully examined by any federal or state agency and has not been the subject of extended discussion or debate at the federal level.

Instead, a major shift in U.S. energy policy that is likely to have major impacts on the U.S. economy for decades and could cost hundreds of thousands of Americans their jobs has occurred largely in a vacuum....

A heavily LNG-dependent strategy for meeting future U.S. energy needs presents at least four fundamental risks:

- The LNG supplies available to the U.S. market over the next 10 to 15 years are virtually certain to fall below the levels currently being assumed in EIA's forecasts....

- While LNG initially was held out as a potential low cost fuel that would help constrain natural gas prices in the U.S., in the current, supply-constrained global energy market, there is little reason to expect LNG to remain a low cost alternative....

- A heavily LNG-dependent strategy virtually guarantees that U.S. manufacturers will be at a competitive disadvantage in attempting to compete in global markets....

- Just as significantly, even if a heavily LNG-dependent strategy is successful in obtaining targeted levels of supply (which is extremely doubtful), it would massively increase U.S. dependence on imported fuels and have a major adverse impact on the U.S. balance of payments deficit....

- Further, since a lead time of 5 to 7 years is required to significantly expand LNG supplies, and maintaining "spare" LNG production capacity is prohibitively expensive, a heavily LNG-dependent strategy for satisfying U.S. natural gas requirements, without developing other new sources of supply, would leave the U.S. vulnerable to severe natural gas and electricity price spikes and supply shortages in any year in which demand for natural gas significantly exceeds expected levels.³

³ Weissman, Andrew D. *Where Will the Gas Come From?* Energy Ventures Group, LLC. 2005.

Based on these and other analyses, it's clear that LNG will not bring any sort of price relief to California ratepayers or businesses.

2. Natural Gas need in CA - We agree that California's natural gas demand will be slower than the rest of the country. The modest growth we may see can be made up for with domestic natural gas supplies.

The U.S. Department of Energy has consistently reported that North America has enough gas supplies to last at least 60 years. Domestic gas production is expected to rise from 19.4 Trillion cubic feet (Tcf) in 2001 to 26.4 Tcf in 2025. Meanwhile, demand for natural gas in California has decreased by about 20 percent since 2000, a result of conservation and increased renewable development. Only modest increases in natural gas demand are predicted by the California Energy Commission over the next 20 years, and demand levels are not expected to reach the highs seen in 2000 in that time period. There is a good balance between supply and demand, increasing production, higher rig counts, and robust storage.

However, rather than prudently utilize domestic sources of natural gas, it is seemingly the state's policy to favor natural gas imports from foreign countries. On September 4, 2004, the California Public Utilities Commission passed, by a 3 to 2 vote, a rulemaking that authorizes the state's utilities to reduce their purchase of domestic natural gas in order to make room for imported LNG.

The decision states,

IT IS ORDERED that:

1. Southern California Gas Company (SoCalGas), San Diego Gas & Electric Company (SDG&E), Pacific Gas & Electric Company (PG&E), Southwest Gas Company (Southwest) and Southern California Edison Company are granted authority to negotiate reduced amounts of capacity and to terminate expiring contracts with El Paso Natural Gas Company, Transwestern Pipeline Company or Gas Transmission Northwest Corporation while preserving the rights of first refusal....
6. Within 30 days of this decision, PG&E, SoCalGas and SDG&E shall submit, for Commission approval, non-discriminatory open access tariffs for all new sources of supply, including potential liquefied natural gas (LNG) supplies....
7. SoCalGas and SDG&E are permitted to establish receipt points, as needed, at Otay Mesa, Salt Works Station and Center Road Station, or at other receipt points.
- 7.a. Otay Mesa shall be designated a common receipt point for both SoCalGas and SDG&E, and an interim transportation rate consisting of the applicable SDG&E or the SoCalGas tariff rate shall apply to deliveries through Otay Mesa.
8. Within three months of the issuance of this decision, SoCalGas and SDG&E shall file an application to request implementation of its transmission system integration and firm access rights proposals.⁴

⁴ Peevey, Michael; Brown, Geoffrey; Kennedy, Susan. *Order Instituting Rulemaking to Establish Policies and Rules to Ensure Reliable, Long-Term Supplies of Natural Gas to California, Rulemaking 04-01-025*. California Public Utilities Commission, September 2004. Page 97.

G202-2
Continued

G202-2 Continued

G202-3

G202-3
See the response to Comment G202-2.

G202-4

G202-4
Thank you for the information.

In the same OIR, the CPUC was alerted in filings by the coalition Ratepayers for Affordable Clean Energy (RACE) that because the presumed need for LNG was based on dubious information of supply and demand, that it was incumbent on the CPUC to hold a public, evidentiary hearing on the need for LNG. However, in the same September 4 rulemaking cited above, RACE's request for such a hearing was denied. To this day, the state has yet to conduct any sort of credible process by which the need for LNG has been established.

Cutting off plentiful domestic gas supplies while becoming reliant on foreign sources puts California's energy grid in peril. For example, the impact of a natural disaster is magnified. The 2005 Gulf coast hurricanes did not pose a short term supply problem for California. This is because most of California's natural gas comes from dispersed sources around the Western U.S. and Canada, and because gas storage rates remained high nationwide, despite 7.5 percent of our nationwide natural gas production being temporarily interrupted by 2005 hurricane damage.

However, the Cabrillo Port project will supply 800 MMcf/d per day, which is a significant portion of California's gas supply, coming through one access point. California's coast is not immune to devastating disasters, including earthquakes, tsunamis, and intense storms, which are covered more completely in others' comments. Political instability at the foreign source of LNG is also a concern. With the CPUC granting the utilities the right to cancel domestic contracts, it's doubtful we will be able to rely on our plentiful domestic resources in such an event.

3. Natural Gas demand reduction: The EIA does not consider energy efficiency or renewable energy as a reasonable alternative to the LNG project (Sections 3.3.1, 3.3.2, 3.3.3.) However, this ignores the spirit of our state's energy policy, especially the loading order described in the state's energy action plan. Importing LNG radically subverts what is a sane plan for our energy future.

That loading order states:

The loading order identifies energy efficiency and demand response as the State's preferred means of meeting growing energy needs. After cost-effective efficiency and demand response, we rely on renewable sources of power and distributed generation, such as combined heat and power applications. To the extent efficiency, demand response, renewable resources and distributed generation are unable to satisfy increasing energy and capacity needs, we support clean and efficient fossil-fired generation.⁵

While the state has done an admirable job of maintaining natural gas demand through efficiency measures, there are many more opportunities that have yet to be exploited. Certainly, one of the most cost-effective is the re-powering of our aging fleet of power plants. The EIR states, "the CEC has determined that the State's natural gas supply must be

⁵ California Energy Commission and California Public Utilities Commission. *California Energy Action Plan II, Implementation Roadmap for Energy Policies*. September 21, 2005, P. 2

G202-4 Continued

G202-4
Continued

G202-5

Section 4.11 contains information on potential seismic and geologic hazards and mitigation measures to address such impacts. Impacts GEO-3 and GEO-4 contain information on potential impacts and mitigation related to earthquakes and related hazards. Appendices J1 through J4 contain additional evaluations of seismic hazards. Section 4.11.1.8 and Impact GEO-6 in Section 4.11.4 contain information on potential impacts from tsunamis and mitigation measures to address such impacts. As discussed in Section 4.11.4, "[t]here is little risk of damage from tsunamis to facilities located in deep water, such as the proposed location of the FSRU..."

G202-6

Section 1.2 discusses dependence on foreign energy sources.

G202-5

G202-7

Sections 1.2.2, 1.2.3, 1.2.4, 3.3.1, 3.3.2, and 4.10.1.3 contain information on the need for natural gas, the role and status of energy conservation and renewable energy sources, and the California Energy Action Plan.

G202-7

Sections 3.3.1 and 3.3.2 address conservation and renewable energy sources, within the context of the California Energy Commission's 2005 Integrated Energy Report and other State and Federal energy reports, as alternatives to replace additional supplies of natural gas.

increased whether or not re-powering occurs.” It also states that “The turbine re-powering alternative is moving forward and would not be affected by decision on the proposed Project.”

However, the EIR fails to quantify these claims. A recent study by the Community Environmental Council concluded that energy efficiency measures, most of which are non-mandated but agreed upon by the CPUC, can alone meet 134% of new natural gas demand by 2016. These measures include the Green Building Initiative, the CPUC’s goal to reduce natural gas consumption by 444 million therms by 2013, the CPUC’s goal to reduce electricity demand by 26,508 GWh by 2013, and the re-powering of the state’s aging non-peaking natural gas plants.⁶

Renewable energy is another potential source of reducing natural gas demand, and a viable alternative to BHP Billiton’s LNG project. The Community Environmental Council report calculated that Governor Schwarzenegger’s renewable goals, in addition to efficiency goals, more than compensate for our future energy demand.

Under the more aggressive renewable portfolio standard goal—33 percent by 2020—as much as 108,561 GWh per year would be produced from renewable sources, equivalent to about 16,500 MW of electrical generation capacity and 180 percent of a large LNG import terminal. The 33 percent standard is likely to become law in 2006, given the fact that the Governor signed a law in 2005 calling for an examination of the feasibility of this level of renewables, and the subsequent completion of this examination, finding, as mentioned, that the 33 percent RPS is both feasible and cost-effective.⁷

To summarize the Community Environmental Council’s findings on the sum total of what California’s future energy portfolio will look like without BHP Billiton’s project,

It should be clear at this point that energy efficiency and renewable energy could readily replace the need for any LNG import terminals in California.

California’s future energy path will depend largely upon the willingness of policy-makers to embrace energy efficiency and renewable energy as the preferred approach to the state’s most pressing environmental issues. The reasons for supporting renewable resources and energy efficiency, rather than supplementing natural gas supplies through LNG, may be boiled down to a few main points.

First, **California’s natural gas demand projections are likely too high** due to exclusion of California’s full energy efficiency and renewable energy goals and other potential in the state’s natural gas demand projections.

Second, **California benefits from a variety of energy efficiency and renewable energy resources that, if developed to their full potential, could eliminate the need for any addition to our current fossil fuel supply base** – and could eventually

⁶ Hunt, Tam; Chan, Allison; Phillips, Jenny. “Does California Need Liquefied Natural Gas? The Potential for Energy Efficiency and Renewable Energy to Replace Future Natural Gas Demand.” March 2006. P. 16 – 17

⁷ *Ibid.* Page. 19

G202-7 Continued

G202-7
Continued

eliminate a large portion of our fossil fuel demand, and perhaps even all of our fossil fuel and nuclear demand.

Third, **significant additional supplies of natural gas are likely to be available in California** even if California builds no LNG import terminals. This is the case because of the proposed natural gas pipelines from Alaska and Canada and, in the shorter term, numerous new LNG import terminals being built in Mexico, Canada and other parts of the U.S. Additional natural gas supplies from North American sources and LNG terminals outside of California are an effective hedge against the possibility that the state might not reach its full renewable energy and energy efficiency potential by 2016.⁸

⁸ *Ibid.* Page 30

P333

Comment Form/Formulario Para Comentarios

Cabrillo Port LNG Deepwater Port—Revised Draft EIR
Puerto de Aguas Profundas de LNG en el Puerto de Cabrillo—Borrador Revisado del EIR

To receive a copy of the Final EIS/EIR, you must provide your name and address.
 Para recibir una copia del EIS/EIR Final, por favor proporcionar su nombre y dirección.

Name (Nombre): H. Grandall

Organization/Agency (Organización/Agencia): _____

Street Address (Calle): 724 Ocean Dr.

City (Ciudad): Oxnard

State (Estado): Ca Zip Code (Código Postal): 93035

email address (dirección de correo electrónico): _____

**Please provide written comments on the reverse
 and drop this form into the comment box.**

**Proporcione por favor los comentarios escrito en el revés y colóque esta forma
 en la caja del comentario.**

**You may also address any written comments
 to the attention of:**

Dwight E. Sanders
 California State Lands Commission
 Division of Environmental Planning and
 Management
 100 Howe Avenue, Suite 100-South
 Sacramento, CA 95825
Include the State Clearinghouse number:
2004021107

**Comments may also be submitted via email
 to: BHPRevisedDEIR@slc.ca.gov**

**Usted puede dirigir también cualquier
 comentario escrito a la atención de:**

Dwight E. Sanders
 California State Lands Commission
 Division of Environmental Planning and
 Management
 100 Howe Avenue, Suite 100-South
 Sacramento, CA 95825
Incluir el número de State Clearinghouse:
2004021107

**Los comentarios también se pueden enviar
 por correo electrónico a:
 BHPRevisedDEIR@slc.ca.gov**

**All comments must be received
by 5 p.m. Pacific Time, May 12, 2006**

**Todos los comentarios debe ser recibido
por 5 de la tarde, hora Pacífico, el 12 de mayo de 2006**

Comments/Comentarios (Use additional sheets if necessary/Puede utilizar hojas adicionales si es necesario):

There is far too much pollution & over-	P333-1
population & we should not be creating more	
Also, LNO will help destroy our already	P333-2
fragile sea-life & ecology	
Please, no <u>PIPELINE</u>	P333-3

P333-1

Sections 4.6.4 and 4.18.4 discuss the Project's potential impacts on air and water quality.

P333-2

Section 4.7.4 contains information on potential impacts on marine biological resources and mitigation measures to address such impacts.

P333-3

Your statement is included in the public record and will be taken into account by decision-makers when they consider the proposed Project.

No action will be taken until the environmental review process is completed.

No se tomará ninguna acción hasta que el proceso de revisión ambiental se haya terminado.

To view the responses to this letter, go to "Index--Read this First" and select "2006 Letters--Form Letter."

April 19, 2006

Dwight Sanders
State lands commission,
100 Howe Avenue
Suite 100 South
Sacramento California 95825-8202

Re: Stop Cabrillo Port LNG

Dear Mr. Sanders,


Please stop Cabrillo port LNG industrial plant from progressing any further in the permit process. California law prohibits industrial intrusion on highly scenic areas. The last remaining wild areas on the Southern California Coast will be permanently despoiled if this industrial plant is installed. In fact over 10 national parks, national recreation areas, state, city and county parks will be despoiled. This would forever impact the quality of life of the areas residents and negatively impact the millions of visitors who come to hike and enjoy the seashore. In addition, federal and state governments own studies show that this project would:

- result in both short term and long term adverse impacts to the coast and it's residents.
- Increase smog levels (tons of pollutants spewing directly upwind from our houses, beaches and hiking trails.
- contain 14 story high pollution spewing industrial towers with lines of support ships which forever will be our new horizon. This towers will be brightly lit at night being a 24 hour eye sore .
- harbor the possibility of a 14 mile wide explosive flash fire due to an accident of terrorist attack.
- be visible from all elevations in malibu from downtown Malibu all the way to Port Hueneme.
- require a "security zone" of 2.3 miles around it. (to protect from terrorism, accidents etc) which is in the same shipping channel where 10,000. container ships and oil tankers use annually.

There are many more negative impacts than the above "official" ones disclosed by the federal and state study.

PLEASE do not allow this to go forward. We, the citizens of Southern California will fight this project until it is derailed. Our money and time can be spent on projects that truly will improve the quality of life in Southern California rather than just provide an opportunity for foreign Companies to sell us gas that they and we do not need.

Sincerely,


ANN DAHLWITZ
29500-34 Heathercliff Rd
Malibu, Ca 90265

To view the responses to this letter, go to "Index--Read this First" and select "2006 Letters--Form Letter."

April 19, 2006

Dwight Sanders
State lands commission,
100 Howe Avenue
Suite 100 South
Sacramento California 95825-8202

Re: Stop Cabrillo Port LNG

Dear Mr. Sanders,

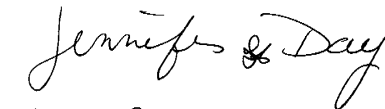
Please stop Cabrillo port LNG industrial plant from progressing any further in the permit process. California law prohibits industrial intrusion on highly scenic areas. The last remaining wild areas on the Southern California Coast will be permanently despoiled if this industrial plant is installed. In fact over 10 national parks, national recreation areas, state, city and county parks will be despoiled. This would forever impact the quality of life of the areas residents and negatively impact the millions of visitors who come to hike and enjoy the seashore. In addition, federal and state governments own studies show that this project would:

- result in both short term and long term adverse impacts to the coast and it's residents
- Increase smog levels (tons of pollutants spewing directly upwind from our houses, beaches and hiking trails.
- contain 14 story high pollution spewing industrial towers with lines of support ships which forever will be our new horizon. This towers will be brightly lit at night being a 24 hour eye sore .
- harbor the possibility of a 14 mile wide explosive flash fire due to an accident of terrorist attack.
- be visible from all elevations in malibu from downtown Malibu all the way to Port Hueneme.
- require a "security zone" of 2.3 miles around it. (to protect from terrorism, accidents etc) which is in the same shipping channel where 10,000. container ships and oil tankers use annually.

There are many more negative impacts than the above "official" ones disclosed by the federal and state study.

PLEASE do not allow this to go forward. We, the citizens of Southern California will fight this project until it is derailed. Our money and time can be spent on projects that truly will improve the quality of life in Southern California rather than just provide an opportunity for foreign Companies to sell us gas that they and we do not need.

Sincerely,



Jennifer Day

468 W. Camden Dr. Ste #200
Beverly Hills, CA 91210

From: Teresa de Bree [tdebreesrn@msn.com]
Sent: Thursday, April 13, 2006 10:31 PM
To: BHPRevisedDEIR@slc.ca.gov

April 12, 2006

Mr. Dwight Sanders
California State Lands Commission
Division of Environmental Planning and Management 100 Howe Avenue, Suite 100-
South Sacramento, CA 95825-8202
Email: BHPRevisedDEIR@slc.ca.gov

RE: Cabrillo Port LNG Terminal
State Clearinghouse No. 2004021107

Dear Mr. Sanders:

This past winter, my family was faced with exorbitant natural gas bills. I applaud any effort by the state to diversify natural gas supplies so we can be protected from price hikes in the future.

I believe the Cabrillo Port LNG facility is the right answer. By bringing in additional natural gas supplies, the state will be better protected from rising natural gas prices.

Please approve this project. Thank you.

Regards,

Teresa de Bree

V011-1

Your statement is included in the public record and will be taken into account by decision-makers when they consider the proposed Project.

V011-1

Express yourself instantly with MSN Messenger! Download today - it's FREE!
<http://messenger.msn.click-url.com/go/onm00200471ave/direct/01/>

P250

To view the responses to this letter, go to "Index--Read this First" and select "2006 Letters--Form Letter."

April 19, 2006

Dwight Sanders
State lands commission,
100 Howe Avenue
Suite 100 South
Sacramento California 95825-8202

Re: Stop Cabrillo Port LNG

Dear Mr. Sanders,


Please stop Cabrillo port LNG industrial plant from progressing any further in the permit process. California law prohibits industrial intrusion on highly scenic areas. The last remaining wild areas on the Southern California Coast will be permanently despoiled if this industrial plant is installed. In fact over 10 national parks, national recreation areas, state, city and county parks will be despoiled. This would forever impact the quality of life of the areas residents and negatively impact the millions of visitors who come to hike and enjoy the seashore. In addition, federal and state governments own studies show that this project would:

- result in both short term and long term adverse impacts to the coast and it's residents.
- Increase smog levels (tons of pollutants spewing directly upwind from our houses, beaches and hiking trails.
- contain 14 story high pollution spewing industrial towers with lines of support ships which forever will be our new horizon. This towers will be brightly lit at night being a 24 hour eye sore .
- harbor the possibility of a 14 mile wide explosive flash fire due to an accident of terrorist attack.
- be visible from all elevations in malibu from downtown Malibu all the way to Port Hueneme.
- require a "security zone" of 2.3 miles around it. (to protect from terrorism, accidents etc) which is in the same shipping channel where 10,000. container ships and oil tankers use annually.

There are many more negative impacts than the above "official" ones disclosed by the federal and state study.

PLEASE do not allow this to go forward. We, the citizens of Southern California will fight this project until it is derailed. Our money and time can be spent on projects that truly will improve the quality of life in Southern California rather than just provide an opportunity for foreign Companies to sell us gas that they and we do not need.

Sincerely,


Psyche De Christ
2639 Rambla Pacifica
Malibu CA 90265

May 10, 2006

P446

2006/P446

Dwight Sanders
State Lands Commission
100 Howe Ave
Suite 100 South
Sacramento CA 95825-8202

Re: Stop Cabrillo Port LNG

Dear Mr. Sanders,


I am a resident of Malibu California and I have

collected these signatures from my friends, neighbors and co-workers
to ask you to please keep the Cabrillo Port LNG project from
moving forward.

Please look carefully at the addresses of the people
who have signed and you will see that they represent people
from all over Southern California who enjoy this beautiful stretch
of coastline and would hate to see it spoiled and polluted.

Please do NOT allow any permits for this project.

Thank you for your time.

Sincerely,

Psyche DeChristo
2639 Rambla Pacifico
Malibu CA 90265

P446-1

Your statement is included in the public record and will be taken into account by decision-makers when they consider the proposed Project.

P446-2

Section 4.4 and Appendix F contain information on the visual resources, impacts, and mitigation. Appendix F describes how visibility from various distances was evaluated and provides additional simulations prepared for viewpoints at elevated sites along the Malibu coastline and inland areas.

P446-1

Sections 4.6.4 and 4.18.4 discuss the Project's potential impacts to air and water quality.

P446-3

Your statement is included in the public record and will be taken into account by decision-makers when they consider the proposed Project.

P446-2

P446-3

To view the responses to this letter, go to "Index--Read this First" and select "2006 Letters--Form Letter."

April 19, 2006

Dwight Sanders
State lands commission,
100 Howe Avenue
Suite 100 South
Sacramento California 95825-8202

Re: Stop Cabrillo Port LNG

Dear Mr. Sanders,

Please stop Cabrillo port LNG industrial plant from progressing any further in the permit process. California law prohibits industrial intrusion on highly scenic areas. The last remaining wild areas on the Southern California Coast will be permanently despoiled if this industrial plant is installed. In fact over 10 national parks, national recreation areas, state, city and county parks will be despoiled. This would forever impact the quality of life of the areas residents and negatively impact the millions of visitors who come to hike and enjoy the seashore. In addition, federal and state governments own studies show that this project would:

- result in both short term and long term adverse impacts to the coast and it's residents.
- Increase smog levels (tons of pollutants spewing directly upwind from our houses, beaches and hiking trails.
- contain 14 story high pollution spewing industrial towers with lines of support ships which forever will be our new horizon. This towers will be brightly lit at night being a 24 hour eye sore.
- harbor the possibility of a 14 mile wide explosive flash fire due to an accident of terrorist attack.
- be visible from all elevations in malibu from downtown Malibu all the way to Port Hueneme.
- require a "security zone" of 2.3 miles around it. (to protect from terrorism, accidents etc) which is in the same shipping channel where 10,000. container ships and oil tankers use annually.

There are many more negative impacts than the above "official" ones disclosed by the federal and state study.

PLEASE do not allow this to go forward. We, the citizens of Southern California will fight this project until it is derailed. Our money and time can be spent on projects that truly will improve the quality of life in Southern California rather than just provide an opportunity for foreign Companies to sell us gas that they and we do not need.

Sincerely,

J. R. M. R.

Rickey Roger Malchi De Mandrond
668 N. COAST Hwy
LAGUNA Bch, CA. 92651

P320

Comment Form/Formulario Para Comentarios

Cabrillo Port LNG Deepwater Port—Revised Draft EIR
Puerto de Aguas Profundas de LNG en el Puerto de Cabrillo—Borrador Revisado del EIR

To receive a copy of the Final EIS/EIR, you must provide your name and address.
 Para recibir una copia del EIS/EIR Final, por favor proporcionar su nombre y dirección.

Name (Nombre): Dr. Bonnahlynn Dean DC

Organization/Agency (Organización/Agencia): Citizen

Street Address (Calle): 2991 Apache Ave

City (Ciudad): Ventura

State (Estado): CA Zip Code (Código Postal): 93001

email address (dirección de correo electrónico):

**Please provide written comments on the reverse
 and drop this form into the comment box.**

**Proporcione por favor los comentarios escrito en el revés y colóque esta forma
 en la caja del comentario.**

**You may also address any written comments
 to the attention of:**

Dwight E. Sanders

California State Lands Commission
 Division of Environmental Planning and
 Management
 100 Howe Avenue, Suite 100-South
 Sacramento, CA 95825

**Include the State Clearinghouse number:
 2004021107**

**Comments may also be submitted via email
 to: BHPRevisedDEIR@slc.ca.gov**

**Usted puede dirigir también cualquier
 comentario escrito a la atención de:**

Dwight E. Sanders

California State Lands Commission
 Division of Environmental Planning and
 Management
 100 Howe Avenue, Suite 100-South
 Sacramento, CA 95825

**Incluir el número de State Clearinghouse:
 2004021107**

**Los comentarios también se pueden enviar
 por correo electrónico a:
 BHPRevisedDEIR@slc.ca.gov**

**All comments must be received
by 5 p.m. Pacific Time, May 12, 2006**

**Todos los comentarios debe ser recibido
por 5 de la tarde, hora Pacífico, el 12 de mayo de 2006**

Comments/Comentarios (Use additional sheets if necessary/Puede utilizar hojas adicionales si es necesario):

I, Dr. B. Dean, can appreciate that one day we will be looking towards a need for imported LNG, however, at this time I feel there are significant risks that are uncontrollable under present technical conditions. What first caught my attention was poor placement adjacent to, or in the Channel Island National Park including migratory routes for Gray Whales, but, with research I became alarmed. I have learned that the proposed LNG floating terminal will be not only polluting itself but the pipelines will be placed near schools and families. As a doctor of "alternative health" prevention provides a "when in doubt don't" attitude. This is an experiment. **[Please do NOT APPROVE LNG IN Ventura Co.]** - Our lives, happiness, health. (Prop 65 - NG = Substance known to cause cancer or reproductive harm.)

Sincerely, Dr. Bonnyann Dean, B.D.

No action will be taken until the environmental review process is completed. 4/19/06

No se tomará ninguna acción hasta que el proceso de revisión ambiental se haya terminado.

Please do not trade our health & environment for political pay-offs.

P320-1

As shown in Figure 1.0-1, the proposed Project is not located in or adjacent to the Channel Islands National Park (CINMP); it is 18.61 NM from the closest point in the CINP (see Table 2.1-2). The FSRU would also be located outside of the current boundary of the Channel Islands National Marine Sanctuary (CINMS), and vessels associated with Cabrillo Port operations would not be expected to enter the CINMS. Sections 4.7.1.4, 4.13.2.2, and 4.20.1.5 discuss the potential expansion of the CINMS boundary, which is not proposed at this time. Sections 4.7.4, 4.15.4, 4.16.4, and 4.18.4 describe potential impacts on the marine environment and proposed mitigation measures to reduce those potential impacts.

P320-2

Section 4.7.4 discusses impacts on marine biological resources and mitigation measures to address potential impacts. "Mysticetes" in Section 4.7.1.5 contains information on gray whale migration routes, and BioMar-9 in Section 4.7.4 addresses potential impacts on whales and other marine mammals.

P320-1

P320-2

P320-3

P320-3

Sections 4.6.4 and 4.18.4 address potential air and water quality impacts identified for the proposed Project. Section 4.13.1 discusses sensitive land uses in proximity to proposed and alternative pipeline routes, such as schools. There are no schools in the immediate vicinity of either of the proposed pipeline routes.

Section 4.2.8 describes regulations regarding pipelines, including the requirement to establish public education programs to prevent and respond to pipeline emergencies. Impacts PS-4 and PS-5 in Section 4.2.8.4 contain mitigation to reduce the risks to residents along any analyzed pipeline route.

P320-4

P320-5

P320-6

Section 4.16.1.2 describes emergency planning and response capabilities in the Project area. Section 4.19 addresses environmental justice issues.

P320-4

Sections 2.1 and 4.2.7.3 contain information on design criteria and specifications, final design requirements, and regulations governing the construction of the FSRU and LNG carriers.

P320-5

Your statement is included in the public record and will be taken into account by decision-makers when they consider the proposed Project.

P320-6

Methane (LNG or natural gas) is not included on the June 9, 2006, Proposition 65 list of chemicals known to the State to cause cancer or reproductive toxicity (see Sections 4.2.7.1, 4.2.8.1, and 4.12.2).

Comment Form/Formulario Para Comentar ^{P341}

Cabrillo Port LNG Deepwater Port—Revised Draft EIR
Puerto de Aguas Profundas de LNG en el Puerto de Cabrillo—Borrador Revisado del EIR

To receive a copy of the Final EIS/EIR, you must provide your name and address.
 Para recibir una copia del EIS/EIR Final, por favor proporcionar su nombre y dirección.

Name (Nombre): Charles Dean

Organization/Agency (Organización/Agencia): Citizen

Street Address (Calle): 2991 Apache Ave

City (Ciudad): Ventura

State (Estado): Ca. Zip Code (Código Postal): 93001

email address (dirección de correo electrónico):

**Please provide written comments on the reverse
 and drop this form into the comment box.**

**Proporcione por favor los comentarios escrito en el revés y colóque esta forma
 en la caja del comentario.**

**You may also address any written comments
 to the attention of:**

Dwight E. Sanders
 California State Lands Commission
 Division of Environmental Planning and
 Management
 100 Howe Avenue, Suite 100-South
 Sacramento, CA 95825
Include the State Clearinghouse number:
2004021107

**Comments may also be submitted via email
 to: BHPRevisedDEIR@slc.ca.gov**

**Usted puede dirigir también cualquier
 comentario escrito a la atención de:**

Dwight E. Sanders
 California State Lands Commission
 Division of Environmental Planning and
 Management
 100 Howe Avenue, Suite 100-South
 Sacramento, CA 95825
Incluir el número de State Clearinghouse:
2004021107

**Los comentarios también se pueden enviar
 por correo electrónico a:
 BHPRevisedDEIR@slc.ca.gov**

**All comments must be received
by 5 p.m. Pacific Time, May 12, 2006**

**Todos los comentarios debe ser recibido
por 5 de la tarde, hora Pacífico, el 12 de mayo de 2006**

Comments/Comentarios (Use additional sheets if necessary/Puede utilizar hojas adicionales si es necesario):

Conservation should Be first.
Global Warming is not a myth.
Use less not more. One planet, where
do you plan on moving to, ~~we~~ We need
to stop Global Warming, Not increase it.

P341-1

You don't Have children? Or you
don't Care, We ~~are~~ live here.

P341-2

P341-1

Sections 1.2.2, 1.2.3, 1.2.4, 3.3.1, 3.3.2, and 4.10.1.3 contain information on the need for natural gas, the role and status of energy conservation and renewable energy sources, and the California Energy Action Plan. Sections 3.3.1 addresses conservation, within the context of the California Energy Commissions 2005 Integrated Energy Report and other State and Federal energy reports, as an alternative to the Project.

P341-2

Sections 4.6.1.4 and 4.6.2 contain information on Project emissions of greenhouse gases and recent California legislation regarding emissions of greenhouse gases.

No action will be taken until the environmental review process is completed.

No se tomará ninguna acción hasta que el proceso de revisión ambiental se haya terminado.

P452

To view the responses to this letter, go to "Index--Read this First" and select "2006 Letters--Form Letter."

April 19, 2006

Dwight Sanders
State lands commission,
100 Howe Avenue
Suite 100 South
Sacramento California 95825-8202

Re: Stop Cabrillo Port LNG

Dear Mr. Sanders,

Please stop Cabrillo port LNG industrial plant from progressing any further in the permit process. California law prohibits industrial intrusion on highly scenic areas. The last remaining wild areas on the Southern California Coast will be permanently despoiled if this industrial plant is installed. In fact over 10 national parks, national recreation areas, state, city and county parks will be despoiled. This would forever impact the quality of life of the areas residents and negatively impact the millions of visitors who come to hike and enjoy the seashore. In addition, federal and state governments own studies show that this project would:

- result in both short term and long term adverse impacts to the coast and it's residents.
- Increase smog levels (tons of pollutants spewing directly upwind from our houses, beaches and hiking trails.
- contain 14 story high pollution spewing industrial towers with lines of support ships which forever will be our new horizon. This towers will be brightly lit at night being a 24 hour eye sore .
- harbor the possibility of a 14 mile wide explosive flash fire due to an accident of terrorist attack.
- be visible from all elevations in malibu from downtown Malibu all the way to Port Hueneme.
- require a "security zone" of 2.3 miles around it. (to protect from terrorism, accidents etc) which is in the same shipping channel where 10,000. container ships and oil tankers use annually.

There are many more negative impacts than the above "official" ones disclosed by the federal and state study.

PLEASE do not allow this to go forward. We, the citizens of Southern California will fight this project until it is derailed. Our money and time can be spent on projects that truly will improve the quality of life in Southern California rather than just provide an opportunity for foreign Companies to sell us gas that they and we do not need.

Sincerely,



ROBERT MICHAEL DEES
12421 JAMES WEAKE AVE
MOOREHEAD, CA 93021

From: Lou Anna Denison [lannd4animals@charter.net]
Sent: Saturday, May 06, 2006 7:51 PM
To: BHPRevisedDEIR@slc.ca.gov
Subject: Please say "no" to BHP Billiton's polluting and unnecessary LNG terminal

The proposed LNG project would tower 14 stories over the water, emitting more than 279 tons of smog-producing air pollution every year and threatening migrating whales and fragile coastal wetlands. And there is no credible evidence that California needs LNG.

It not only destroys the environment of the ecosystems from which it comes, but it also wastes an opportunity to power California's future with clean, safe and renewable sources of energy - like solar and wind power.

Please REJECT this any pther LNG facility along our California coast!

Mr. & Mrs. James L. Denison
 6931 E. 11th St.
 Long Beach, CA 90815

P044-1

P044-2

P044-3

P044-4

P044-5

P044-1

Section 4.4 and Appendix F contain information on visual resources, impacts, and mitigation. Appendix F describes how visibility from various distances was evaluated and provides additional simulations prepared for viewpoints at elevated sites along the Malibu coastline and inland areas.

P044-2

The Project has been modified since issuance of the March 2006 Revised Draft EIR. See Section 1.4.2 for a summary of Project changes. Section 4.6.1.3 contains revised information on Project emissions and proposed control measures. Section 4.6.4 discusses the health effects attributed to air pollutants and includes revised impacts and mitigation measures.

P044-3

Sections 4.7.4 and 4.8.4 discuss potential impacts on migrating whales and wetlands, respectively.

P044-4

Sections 1.2.2, 1.2.3, 1.2.4, 3.3.1, 3.3.2, and 4.10.1.3 contain information on the need for natural gas, the role and status of energy conservation and renewable energy sources, and the California Energy Action Plan.

P044-5

Your statement is included in the public record and will be taken into account by decision-makers when they consider the proposed Project.

To view the responses to this letter, go to "Index--Read this First" and select "2006 Letters--Form Letter."

April 19, 2006

Dwight Sanders
State lands commission,
100 Howe Avenue
Suite 100 South
Sacramento California 95825-8202

Re: Stop Cabrillo Port LNG

Dear Mr. Sanders,

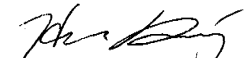
Please stop Cabrillo port LNG industrial plant from progressing any further in the permit process. California law prohibits industrial intrusion on highly scenic areas. The last remaining wild areas on the Southern California Coast will be permanently despoiled if this industrial plant is installed. In fact over 10 national parks, national recreation areas, state, city and county parks will be despoiled. This would forever impact the quality of life of the areas residents and negatively impact the millions of visitors who come to hike and enjoy the seashore. In addition, federal and state governments own studies show that this project would:

- result in both short term and long term adverse impacts to the coast and it's residents.
- Increase smog levels (tons of pollutants spewing directly upwind from our houses, beaches and hiking trails.
- contain 14 story high pollution spewing industrial towers with lines of support ships which forever will be our new horizon. This towers will be brightly lit at night being a 24 hour eye sore.
- harbor the possibility of a 14 mile wide explosive flash fire due to an accident of terrorist attack.
- be visible from all elevations in malibu from downtown Malibu all the way to Port Hueneme.
- require a "security zone" of 2.3 miles around it. (to protect from terrorism, accidents etc) which is in the same shipping channel where 10,000. container ships and oil tankers use annually.

There are many more negative impacts than the above "official" ones disclosed by the federal and state study.

PLEASE do not allow this to go forward. We, the citizens of Southern California will fight this project until it is derailed. Our money and time can be spent on projects that truly will improve the quality of life in Southern California rather than just provide an opportunity for foreign Companies to sell us gas that they and we do not need.

Sincerely,


Hector Diaz

1044. w. 168st

Gardena CA 90247

To view the responses to this letter, go to "Index--Read this First" and select "2006 Letters--Form Letter."

April 19, 2006

Dwight Sanders
State lands commission,
100 Howe Avenue
Suite 100 South
Sacramento California 95825-8202

Re: Stop Cabrillo Port LNG

Dear Mr. Sanders,

Please stop Cabrillo port LNG industrial plant from progressing any further in the permit process. California law prohibits industrial intrusion on highly scenic areas. The last remaining wild areas on the Southern California Coast will be permanently despoiled if this industrial plant is installed. In fact over 10 national parks, national recreation areas, state, city and county parks will be despoiled. This would forever impact the quality of life of the areas residents and negatively impact the millions of visitors who come to hike and enjoy the seashore. In addition, federal and state governments own studies show that this project would:

- result in both short term and long term adverse impacts to the coast and it's residents.
- Increase smog levels (tons of pollutants spewing directly upwind from our houses, beaches and hiking trails.
- contain 14 story high pollution spewing industrial towers with lines of support ships which forever will be our new horizon. This towers will be brightly lit at night being a 24 hour eye sore.
- harbor the possibility of a 14 mile wide explosive flash fire due to an accident of terrorist attack.
- be visible from all elevations in malibu from downtown Malibu all the way to Port Hueneme.
- require a "security zone" of 2.3 miles around it. (to protect from terrorism, accidents etc) which is in the same shipping channel where 10,000. container ships and oil tankers use annually.

There are many more negative impacts than the above "official" ones disclosed by the federal and state study.

PLEASE do not allow this to go forward. We, the citizens of Southern California will fight this project until it is derailed. Our money and time can be spent on projects that truly will improve the quality of life in Southern California rather than just provide an opportunity for foreign Companies to sell us gas that they and we do not need.

Sincerely,



CANDICE DIXON

12480 CULVER BLVD. #3

LOS ANGELES, CA

90066

From: Rebecca Dmytryk [diametryk@earthlink.net]
 Sent: Wednesday, April 19, 2006 3:32 PM
 To: BHPRevisedDEIR@slc.ca.gov
 Subject: comment

Greetings - I am writing in opposition to the LNG 'factory' being proposed for off the coast of Malibu. My history - I am currently Program Director of WildRescue, a local organization, and I am the Founder of The California Wildlife Center. In review of the revised EIR, section 4.7 - Biological Resources, I have found a dispiriting commonality between the species listed - let me summarize:

The short-finned pilot whale, sei whale, pygmy sperm whale, North Pacific right whale, minke whale, Guadalupe fur seal, Steller sea lion, and the Southern sea otter - all have been sighted in the area although the EIR speculates, due to their scarcity, none will appear at or near the LNG project site.

These species, once common along our coastline, are no more. I strongly believe these species would again thrive if we were to make their water world more inhabitable. These animals are out there - ready to make a comeback. I have personally encountered these in Malibu in the last ten years: sea otter, northern right whale dolphin, pygmy sperm whale, Guadalupe fur seal, and stellar sea lion. We humans have played a major role in driving these species to near extinction. We can have a hand in helping them keep hold - maybe even thrive once again. Wouldn't you want that for the future?

I do not believe a liquid gas factory off Leo Carrillo would make these waters more hospitable for marine life. Lights, noise, added pollution, and the sucking up of living sea water for ballast and cooling. Using the EIR's estimates for daily sea water consumption, plus the amount each visiting tanker might take up for ballast, it could amount to over 78,190,000 gallons a day - that's equivalent to the mass destruction of 2,606 large swimming pools, PER DAY, of living, breathing, life giving ocean water. And for what? To continue our dependancy on an unsustainable and 'dirty' fuel from another country when we have wind, water, contraceptives, and the sun?

And what about BHP Billiton (BHPB)? The corporation has recently (late 2005) been under fire for: Unlawful exploration of endangered species habitat in the Philippines; their unwillingness to agree to a 1km safety zone from the rivers in its mining operations in New South Wales, Australia; continuing efforts to mine Gag Island, a protected forest in Indonesia, where they have plans to construct the biggest nickel mine in the world, dumping waste into the sea, which scientists say is home to 64% of all known coral species in the world and the highest fish diversity anywhere; and the poisoning of the rivers downstream from the Ok Tedi mine, located in the rain forest covered Star Mountains of Papua New Guinea, that may leave the waterway dead for between two hundred to three hundred years. Do you want to welcome this corporation into our waters?

No to BHBP and No to any LNG projects. Yes to environmentally sound, sustainable options.

Rebecca Dmytryk

P012-1

Your statement is included in the public record and will be taken into account by decision-makers when they consider the proposed Project.

P012-1

P012-2

Section 4.7 contains updated stock assessments for marine mammals in the Project vicinity according to the latest available information from NOAA. In addition, marine mammal experts (see Appendix I) have been consulted regarding potential impacts and mitigation, and based upon their expertise, text in Section 4.7 has been clarified.

P012-2

P012-3

Impact BioMar-3 in Section 4.7.4 addresses Project lighting impacts on marine life. Impact BioMar-5 in Section 4.7.4 contains updated information on potential noise impacts on the marine environment and mitigation measures to address such impacts.

P012-3

P012-4

P012-4

Impact BioMar-6 in Section 4.7.4 contains information on the potential impacts of an incident on marine biota. The Project has been modified since issuance of the March 2006 Revised Draft EIR. See Section 1.4.2 for a summary of Project changes. A closed loop tempered water system would replace the seawater cooling system. Section 4.7.4 discusses uptake volumes and potential impacts of seawater uptake and discharge, including those on ichthyoplankton from intake of seawater (also see Appendix H), and those on water quality and the marine environment from thermal discharges of cooling water. Section 2.2.2.4 contains a description of the proposed uptakes and water uses for the FSRU.

P012-5

P012-6

P012-5

Sections 1.2.2, 1.2.3, 1.2.4, 3.3.1, 3.3.2, and 4.10.1.3 contain information on the need for natural gas, the role and status of energy conservation and renewable energy sources, and the California Energy Action Plan. Section 1.2 discusses dependence on foreign energy sources.

P012-7

P012-6

The Applicant is required to adhere to all applicable Federal, State, and local laws, regulations, and permit requirements in the execution of all phases of the Project. Section 4.2.6 states, "The environmental and occupational safety record for the Applicant's worldwide operations, including, for example, mining ventures overseas, was not considered in evaluating potential public safety concerns associated with this Project because such operations are

not directly comparable to the processes in the proposed Project." The conclusions in the EIS/EIR are based on the analyses of potential environmental impacts of the proposed Project and the implementation assumptions stated in Section 4.1.7. However, the Applicant's safety and environmental record will be taken into account by decision-makers when they consider the proposed Project.

P012-7

Sections 3.3.1 and 3.3.2 address conservation and renewable energy sources, within the context of the California Energy Commission's 2005 Integrated Energy Report and other State and Federal energy reports, as alternatives to replace additional supplies of natural gas.

Mary D. Dodd
3801 Ocean Drive
Oxnard, CA 93035

May 9, 2006

ATTN: Dwight E. Sanders
California State Lands Commission
Div. of Environmental Planning & Management
100 Howe Avenue, Suite 100-South
Sacramento, CA 95825
State Clearinghouse # 2004021107

In light of the universal alarm regarding global warming as reported in the scientific press as well as popular publications, such as *Time Magazine* (April 3, 2006), finding fault or inconsistencies in the Revised Draft Environmental Impact Report for the Cabrillo Port Liquefied Natural Gas Deepwater Port seems frivolous and academic.

This new proposed port and the BHP Billiton tankers will increase the emission of green house gases further imperiling the health of the planet. Evidently this operation is not subject to any emissions' regulations since it will be located out at sea—near the Channel Islands. (Table 4.6-21 and footnote 6 of the Executive Summary, Table ES-2, p.21) Since the size of the FSRU is increased as compared to the one in the original draft DEIR, this operation will release more hydrocarbon pollutants than originally indicated.

The health of the fragile ecological system, its marine life, bird life, and sea water where the project is to be located are given short shrift in this revised DEIR. Section 4.7-38, 39 is filled with conditional verb phrases, such as, "could clog," "could reduce," "would be short-term," "could disturb or directly harm." In Section 4.7-42, regarding noise the report states, "few techniques are available to determine bird hearing capability . . . At least one species, parakeets, showed much less threshold shift than found in mammalian ears, supporting the idea that birds are relatively immune to acoustic trauma from loud noises." The first part of this statement should be challenged; the last part is an astounding, ludicrous assumption. Rather than all the woulds, coulds, and probablys, projected percentages are called for.

As for the newly designed FSRU, it is untried and deserves the phrases could be or maybe is safe. BHPB had one of its small platforms come loose from its mooring during a storm and drift many miles. Nothing in the new revision of the DEIR considers the type of catastrophe, or the repercussions from a hurricane the size of Katrina or a tsunami the size that hit Crescent City in Northern California coming to Ventura County's shores. According to meteorologists, with the advent of increasing global warming, weather phenomenon is unpredictable.

Sections 1.2.2 and 1.2.3 entitled "Natural Gas Need in the United States" and "Natural Gas Need in California" serve to emphasize that no in-depth analysis has been

P430-1

Sections 4.6.1.4 and 4.6.2 contain information on Project emissions of greenhouse gases and recent California legislation regarding emissions of greenhouse gases.

P430-2

The Project has been modified since issuance of the March 2006 Revised Draft EIR. See Section 1.4.2 for a summary of Project changes. Section 4.6.1.3 contains revised information on Project emissions and proposed control measures. Section 4.6.4 discusses the health effects attributed to air pollutants and includes revised impacts and mitigation measures.

P430-3

P430-1 The EIS/EIR uses the conditional mood, e.g., would, could, in its analysis of impacts only because the Project has not been approved.

P430-4

P430-2 Impact BioMar-3 in Section 4.7.4 discusses Project impacts on marine biota, including noise impacts on birds, and concludes that this impact could be reduced to a level below its significance criteria through MM NOI-1a, Efficient Equipment Usage.

P430-5

P430-3 Sections 2.1 and 4.2.7.3 contain information on design criteria and specifications, final design requirements, and regulations governing the construction of the FSRU and LNG carriers.

P430-6

P430-4 The Typhoon Platform, a tension leg production platform in the Gulf of Mexico jointly owned by Chevron and BHPB, was severed from its mooring and severely damaged during Hurricane Rita. The Typhoon Platform was designed for a different purpose using different design criteria.

P430-5

P430-6

P430-7

P430-8

P430-9

The Cabrillo Port must be designed in accordance with applicable standards, and the USCG has final approval. Section 2.1 contains information on design criteria and specifications, final design requirements, and regulations governing the construction of the FSRU. Section 4.2.4 contains information on Federal and State agency jurisdiction and cooperation. The Deepwater Port Act specifies performance levels that all deepwater ports must meet; Section 4.2.7.3 contains information on design and safety standards for the deepwater port. Section 4.2.8.2 contains information on pipeline safety and inspections. If the FSRU were to become unmoored, the patrolling tugboats could be used to hold it

in place. Section 4.3.1.4 addresses this topic.

The regulation implementing the Deepwater Port Act (33 CFR 149.625 [a]) states, "Each component, except for those specifically addressed elsewhere in this subpart (for example, single point moorings, hoses, and aids to navigation buoys), must be designed to withstand at least the combined wind, wave, and current forces of the most severe storm that can be expected to occur at the deepwater port in any 100-year period." By definition, a 100-year wave event is expected to occur once every 100 years on average over the course of many hundreds of years. The EIS/EIR's analyses have been developed with consideration of these factors and regulations.

P430-7

Section 4.11.1.8 and Impact GEO-6 in Section 4.11.4 contain information on potential impacts from tsunamis and mitigation measures to address impacts.

P430-8

Section 4.1.8.5 contains information on existing wind conditions at the offshore Project site. Figure 2.1-2 depicts the maximum area from the FSRU in any direction that could be affected in the event of an accident; impacts would not reach the shoreline. Section 2.3.5.3 of the Independent Risk Assessment (see Appendix C1) contains information on the environmental, meteorological and ocean conditions that were considered in the modeling of LNG spills and dispersion.

P430-9

Sections 1.2.2 and 1.2.3 contain updated information on natural gas needs in the U.S. and California. Forecast information has been obtained from the U.S. Department of Energy's Energy Information Agency and from the California Energy Commission.

made as to the actual need for this fuel as compared to alternative fuels, their accessibility, costs, and drawbacks. Senate Bill 426 among other requirements calls for an analysis of need and is scheduled to come before the California State Legislature to be voted on.

Most importantly one needs to ask if BHP Billiton's scheme and enterprise is good for the people of Ventura County, the state, the country and the planet. I believe the answer is a resounding NO!

Sincerely yours,

Mary D. Dodd
MARY D. DODD

P430-9
Continued

P430-9 Continued

P430-10

P430-10

California Senate Bill 426 (Simitian), which would have created a ranking process for different LNG projects, was re-referred to the California Assembly Committee on Utilities and Commerce on August 24, 2006. As of November 30, 2006, the Legislature's Current Bill Status shows it as "From Assembly without further action," which ended the consideration of the bill during the 2005-06 Legislative Session.

P430-11

P430-11

Your statement is included in the public record and will be taken into account by decision-makers when they consider the proposed Project.

To view the responses to this letter, go to "Index--Read this First" and select "2006 Letters--Form Letter."

April 19, 2006

Dwight Sanders
State lands commission,
100 Howe Avenue
Suite 100 South
Sacramento California 95825-8202

Re: Stop Cabrillo Port LNG

Dear Mr. Sanders,

Please stop Cabrillo port LNG industrial plant from progressing any further in the permit process. California law prohibits industrial intrusion on highly scenic areas. The last remaining wild areas on the Southern California Coast will be permanently despoiled if this industrial plant is installed. In fact over 10 national parks, national recreation areas, state, city and county parks will be despoiled. This would forever impact the quality of life of the areas residents and negatively impact the millions of visitors who come to hike and enjoy the seashore. In addition, federal and state governments own studies show that this project would:

- result in both short term and long term adverse impacts to the coast and it's residents.
- Increase smog levels (tons of pollutants spewing directly upwind from our houses, beaches and hiking trails.
- contain 14 story high pollution spewing industrial towers with lines of support ships which forever will be our new horizon. This towers will be brightly lit at night being a 24 hour eye sore .
- harbor the possibility of a 14 mile wide explosive flash fire due to an accident of terrorist attack.
- be visible from all elevations in malibu from downtown Malibu all the way to Port Hueneme.
- require a "security zone" of 2.3 miles around it. (to protect from terrorism, accidents etc) which is in the same shipping channel where 10,000. container ships and oil tankers use annually.

There are many more negative impacts than the above "official" ones disclosed by the federal and state study.

PLEASE do not allow this to go forward. We, the citizens of Southern California will fight this project until it is derailed. Our money and time can be spent on projects that truly will improve the quality of life in Southern California rather than just provide an opportunity for foreign Companies to sell us gas that they and we do not need.

Sincerely,

Bye Dgon
Bye Dgon
8185 MILDRED AVE
MAR Vista 90066

LNG Public Comments
 State Clearinghouse # 2004021107
 Dwight E. Sanders, CA State Lands Commission,
 100 Howe Ave., Suite 100-South, Sacramento, CA 95825
BHPRevisedDEIR@slc.ca.gov

To Whom It May Concern:

I am an Oxnard Shores/Mandalay Beach resident and a geography graduate student familiar with the EIR process and environmental issues in my area. I am very concerned that the Cabrillo Liquefied Natural Gas Deepwater Port and associated facilities and conveyed substances will pose a threat to the natural and human environment in my area.

I would like the Final EIR to address the following issues:

- Impacts to the lands, coasts, and waters of Ventura County in general (current and future);
- Impacts to the Channel Islands National Park and Channel Islands National Marine Sanctuary, including the impacts to all living things, ecological processes, and especially endangered/threatened/rare species, beach and ocean goers, marine processes, boat traffic routes, and tourism;
- Impacts to the Mandalay State Beach and McGrath State Beach (adjacent the proposed pipeline site to the north), including the impacts to all living things, ecological processes, and especially endangered/threatened/rare species, beach and ocean goers, marine processes, boat traffic routes, and tourism;
- Impacts to 5th Street, Oxnard Shores, Mandalay, and Hollywood (Hollywood-by-the Sea) beaches and waters (adjacent the proposed pipeline site to the south), especially impacts to beach and ocean goers, marine processes, boat traffic routes, and tourism;
- Impacts to current and future residents in the Oxnard coastal area, including air and water quality health impacts, earthquake and tsunami and oceanic/atmospheric hazards, and impacts to the visual character of the Oxnard coastal and oceanic area;
- Impacts to surfers, body boarders, swimmers, kayakers, boaters, fishermen, tourists, and other ocean enthusiasts who use this area for recreation;
- Impacts near the site of LNG transference (both in water and on land);
- Processes for handling spills, leaks, or other emergencies regarding LNG, and warning systems notifying the public for spills, leaks, or other emergencies regarding LNG;
- Impacts to transportation on Harbor Boulevard and 5th Street, both major roadways in the Oxnard coastal area;
- Why there is a need for the Cabrillo Liquefied Natural Gas Deepwater Port and LNG facilities here and now;
- Why the Cabrillo Liquefied Natural Gas Deepwater Port and LNG facilities have to be so near the protected Channel Islands National Park, Channel Islands National Marine Sanctuary, state beaches, and the residential areas of Oxnard (what are the alternatives and why was this one chosen?);

P013-1

Section 4.13.4 contains information on potential land use impacts and mitigation measures to address such impacts. Project impacts on coastal ecosystems would be limited to the pipeline corridor during construction and operation (see Section 2.1). The shore crossing required for the proposed Project would be installed beneath Ormond Beach. With the proposed mitigation, the potential impacts of construction, operation, or an accident on terrestrial biological resources would be reduced to a level that is below the significance criteria. Section 4.18.4 contains information on potential impacts on water quality and mitigation measures to address such impacts.

P013-2

The FSRU would be located outside of the current boundary of the Channel Islands National Marine Sanctuary (CINMS) and vessels associated with Cabrillo Port operations would not be expected to enter the CINMS. Sections 4.7.1.4, 4.13.2.2, and 4.20.1.5 discuss the potential expansion of the CINMS boundary, which is not proposed at this time. Sections 4.7.4, 4.15.4, 4.16.4, and 4.18.4 describe potential impacts on the marine environment and proposed mitigation measures to reduce those potential impacts.

P013-3

Chapter 2 contains information on the routes of the proposed onshore pipelines; Chapter 3 contains the information on the alternative pipeline routes. Sections 4.8.5.4, 4.3.5.4, and 4.15.5.4 contain the impact analysis of the offshore pipeline routes for terrestrial biological resources, marine traffic, and recreation, respectively.

Section 4.15.5.2 contains revised information on nearby beach use and the recreation-related visual impacts on users at these parks. As stated in Section 4.15.5.2, "(t)he shore crossing would involve HDB activities located between McGrath State Beach and Mandalay Beach Park and connection to the Reliant Energy Mandalay Generating Station. The construction across the beach would result in construction activities and impacts similar to the activities and impacts of the proposed shore crossing at Ormond Beach." See REC-4 through REC-6 in Section 4.15.4 for a discussion of onshore recreational impacts.

Section 4.4.4 contains information regarding visual impacts on coastal viewsheds.

P013-4

Section 4.13.4 contains information on potential land use impacts

P013-1

P013-2

P013-3

P013-4

P013-5

P013-6

P013-7

P013-8

P013-9

P013-10

P013-11

and mitigation measures to address such impacts. As described in Section 2.3.2, the shore crossing would be installed beneath Ormond Beach. Sections 4.8.1 and 4.14.1.2 discuss Ormond Beach wetlands. Section 4.8.4 discusses mitigation measures to minimize impacts on wetlands. The presence of the pipelines under Ormond Beach would not restrict access to the area for recreation or otherwise alter recreation opportunities at Ormond Beach. During construction, the horizontal directional boring activities would be contained within the Reliant Energy property, and the pipeline would be buried underneath the beach. This topic is discussed further in Sections 4.15.4 and 4.2.8.4. Updated information about the restoration efforts at Ormond Beach is included in Section 4.13.2.

Section 4.7.4 contains information on potential impacts on marine biological resources and mitigation measures to address such impacts. LNG carriers approaching and departing the Cabrillo Port FSRU would travel on the routes depicted in Figure 4.3-2 (also see Section 4.3.1.3). LNG carriers would neither cross nor enter the Santa Barbara Channel coastwise traffic lanes under normal operating conditions. The FSRU would be located about 2 nautical miles from the southbound coastwise traffic lane. Given this distance, its presence, under normal operating conditions, would not interfere with operations in the coastwise traffic lanes.

Section 4.15.4 contains information on potential impacts on recreational activities and mitigation measures to address such impacts. Section 4.4.4 evaluates potential aesthetic impacts on residents, tourists, and other recreational users. Section 4.15.1.1 evaluates impacts on offshore recreation. Section 4.16.1.2 contains information on tourism.

P013-5

Sections 4.6.4 and 4.18.4 contain information on water and air quality impacts, including health. Section 4.11.4 contains information on earthquakes and tsunamis. Section 4.1.8 contains information on oceanic conditions. Section 4.2 contains information on public safety, including potential releases to the atmosphere. Section 4.4.4 contains information on impacts on the visual character of the Oxnard coastal and oceanic areas.

P013-6

Section 4.15.4 contains information regarding recreational impacts.

P013-7

Section 2.2.3 contains information on LNG transfer. Section 4.2.7.6 and the Independent Risk Assessment (Appendix C1) contain

information on public safety impacts from various incidents at the FSRU. The analysis indicates that the maximum impact distance of an accident would involve a vapor cloud dispersion extending 6.3 nautical miles (7.3 miles) from the FSRU. The FSRU would be located approximately 12.01 nautical miles (13.83 miles) offshore; therefore, consequences of an accident involving LNG transport by carrier and storage on the FSRU would extend no closer than 5.7 nautical miles (6.5 miles) from the shoreline. Figure ES-1 depicts the consequence distances surrounding the FSRU location for worst credible events. Section 4.7.4 contains revised text on potential impacts on marine biological resources and mitigation measures to address such impacts.

P013-8

Emergency response and notification requirements for LNG releases are subject to 33 CFR 150.15(p) and 33 CFR, Part 127, Subpart B and is discussed in Sections 2.2.2.5, 4.2.4.2 and 4.2.7.6 and Appendix C-1. Emergency operations plans would meet these requirements.

P013-9

The coastal area near Harbor Boulevard and West 5th Street is not in the vicinity of the proposed Project; however, it is in the vicinity of the Mandalay Shore Crossing/Gonzales Road Pipeline alternative pipeline route. Section 4.17.5.2 addresses this topic.

P013-10

Purpose and need for the Project are discussed in Section 1.2.

P013-11

The USCG, MARAD, and the CLSC received an application for a deepwater port off the shore of Ventura County. The USCG and MARAD are therefore required under NEPA to evaluate this alternative as the Applicant's preferred alternative. The agencies have evaluated this alternative in comparison with the other reasonable alternatives in compliance with NEPA and the CEQA.

The EIS/EIR initially evaluated 18 locations for the FSRU as potential locations for the deepwater port. It built on previous California Coastal Commission studies that evaluated nearly 100 locations. Section 3.3.7 contains information on other locations that were considered.

Table 2.1-2 provides the distances between the FSRU and points of interest, including the Channel Islands National Park and Marine Sanctuary, and the coastline.

- Who would benefit from the building, implementation, and use of the Cabrillo Liquefied Natural Gas Deepwater Port and LNG facilities?
- Who/what would be harmed from the building, implementation, and use of the Cabrillo Liquefied Natural Gas Deepwater Port and LNG facilities?

I want answers to these issues, and all questions and answers included in the FEIR. I feel very strongly that the environmental quality of the natural environment and human environment may be degraded with the introduction of this project. We, residents of the Oxnard coastal areas, do not want any economic development that brings environmental harm to our area. We will not support the Cabrillo Liquefied Natural Gas Deepwater Port and LNG facilities if environmental harm will result from this project.

Sincerely,

Jessica Douglas

Geographer, UCSB/CSUN
(805) 218-4425
jessica.douglas.221@csun.edu

| P013-12

P013-12

Section 1.2 contains information on the Project purpose, need and objectives.

| P013-13

P013-13

Section 5.2 contains information on the environmental effects of the proposed Project that cannot be mitigated to less than significant and Section 5.4 contains information on irreversible and irretrievable commitments of resources.

| P013-14

P013-14

Your statement is included in the public record and will be taken into account by decision-makers when they consider the proposed Project.

From: Patricia Dowd [pdowd@pdiseach.com]
Sent: Tuesday, April 11, 2006 12:36 PM
To: BHPRevisedDEIR@slc.ca.gov
Subject: Please, NO LNG

You may think this is just another NIMBY protest, but this issue goes far beyond the concerns of local citizens.

Bringing foreign natural gas to our shores increases our dependence on energy sources outside of our control.

The pollution from the plant off our shore line is unprecedented and unnecessary when you consider that oil companies in Alaska have been burning natural gas off for decades. The greedy governor of Alaska could have used existing pipelines across Canada, but instead they are building a new one at great expense. This is the type of thinking that is behind the companies who want to mar our coast in multiple locations. Not only will we be forced to look at it, smell it and fear it everyday of the rest of our lives, we know it is endangering our fragile wildlife.

The people who are pushing so hard for this to happen are the same type of people who still haven't paid for the Valdez oil spill cleanup. They are the same people who have polluted third world countries turning entire communities into hazardous waste dumps. They have no concern for the people or the environment, only for the profit.

Please don't fall under the spell of big business... you'll regret it and your legacy will live on far past your death.



Patricia Dowd

www.pdiseach.com • 805-985-8243 • pdowd@pdiseach.com

P004-1

Section 1.2 discusses dependence on foreign energy sources.

P004-2

Sections 4.6.4 and 4.18.4 discuss the Project's potential impacts on air and water quality. Sections 4.7.4 and 4.8.4 discuss the Project's potential effects on the marine and terrestrial environments.

P004-3

Your statement is included in the public record and will be taken into account by decision-makers when they consider the proposed Project.

| P004-1

| P004-2

| P004-3

MARINE ENGINEERS' BENEFICIAL ASSOCIATION (AFL-CIO)

444 NORTH CAPITOL STREET, NW, SUITE 800 WASHINGTON DC 20001 PH: (202) 638-5355 FAX: (202) 638-5369

RON DAVIS
PRESIDENT



CECIL A. MCINTYRE
SECRETARY-TREASURER

May 12, 2006

Docket Management Facility
U.S. Department of Transportation
400 Seventh Street, SW
Washington, DC 20590-0001

Dwight E. Sanders
California State Lands Commission
Div. of Environmental Planning & Management
100 Howe Avenue, Suite 100-South
Sacramento, CA 95825

The Honorable Arnold Schwarzenegger
Governor
State Capitol Building
Sacramento, CA 95814

Ms. Julie A. Nelson
Acting Deputy Maritime Administrator and Chief Counsel
Maritime Administration
U.S. Department of Transportation
Room 7221 (MAR-221)
400 Seventh St SW
Washington, DC 20590-0001

Re: U.S. Coast Guard Docket Number 2004-16877, Cabrillo Port Liquefied Natural Gas Deepwater Port Application

Please be advised that this shall serve as the official comment of the Marine Engineers' Beneficial Association (MEBA). MEBA has well over 20 years in the safe and secure handling and transportation of Liquefied Natural Gas (LNG). Our U.S. Coast Guard licensed deck and engineering officers are considered the pioneers of the modern age of LNG shipboard trade. They have loaded LNG from receiving facilities and unloaded LNG at regasification plants all over the world. We hope that you find these comments helpful in the decision making process.

G011-1

Thank you for the information.

G011-2

Your statement is included in the public record and will be taken into account by decision-makers when they consider the proposed Project.

G011-1

G011-2

ABSTRACT

California is at the forefront of influencing how future liquefied natural gas shipments will be brought safely and securely into the United States. The assessment made by the Governor and the California State Lands Commission, and any possible conditions they deem prerequisite to approval, can immensely increase the rate of success with respect to ensuring the safety and security of all Californians. In addition, the decision reached may set the stage for a nationwide coastal policy that enhances and protects all Americans.

BHP Billiton's Cabrillo Port proposal has taken all the necessary steps through an extensive environmental review and regulatory approval process to ensure that a high level of safety, health, and environmental protection standards are met. Moreover, the LNG entering Cabrillo Port will provide a stable supply of clean reliable energy that will help diversify California's energy portfolio. This is a positive step in weaning the State and nation off of oil, coal and nuclear powered electric generation.

The Marine Engineers' Beneficial Association, whose merchant marine officers have crewed LNG vessels around the world, understands the public concern with the safety and security issues surrounding the siting of LNG terminals. Our experience has shown that the skill and professionalism of LNG ship officers is a key component in the safe operation of LNG terminals. We are convinced that in order to best serve and protect the people of California, the officers and crew of LNG ships entering this country and working aboard the FSRU and on the tug / supply vessels should be American citizens, fully licensed and certified by the U.S. Coast Guard. We urge the Governor and the California State Lands Commission to require the use of U.S. Coast Guard documented mariners to crew the LNG vessels, floating storage and regasification unit and all supply and tug boat vessels involved in this project. The human element to the safe transit of this security sensitive cargo should not be vulnerable to compromise by poorly vetted non-U.S. crews operating below American standards.

With the aforementioned in mind and after a careful review of this Project, including important conditions that we believe need to be attached to any license permit, the MEBA believes the BHP Cabrillo Port Deepwater Port Application should be approved.

Table of Contents

Abstract

- I. Introduction
- II. Regulatory Authority of the Governor of California, the California State Lands Commission; BHP Billiton's Discretion
- III. Need for Shipboard Import of LNG to California
- IV. Need for U.S. Merchant Marine
- V. Thorough Vetting of U.S. Merchant Mariners Provides Unmatched Shipboard and Deepwater Port Security
- VI. International Fleet Discards Steam Ships
- VII. U.S. Merchant Marine - - Abundance of Steam Engineers
- VIII. International Scope
 - A. International Facts: Shortage of Steam Engineers
 - B. International Trend: Widespread Retirement of LNG Officers Forecasted
 - C. International Trend: Problems with Incoming Generation of LNG Officers
 - D. International Crisis: Wide Scale Officer Shortage Resulting in Foreign Ship Operators "Poaching" LNG Officers; Poor Training; Steep Decrease in Safety Security; and Violations of International Law
 - E. International Consequence: Insurance Underwriters Deeply Concerned with Inexperienced Crews aboard LNG Vessels
 - F. International Reaction: Responsible Shipping Ministries React to Manning Shortfalls and Abuse; Use of National Flags Promoted by Major Importers
 - G. International Trend: Decline of International Maritime Education
- IX. Superior Domestic Maritime Resource: Calhoon MEBA Training School
 - A. Unparalleled LNG Training in the United States: One of the World's Newest and Most Sophisticated Bridge Simulators
 - B. Engineering Simulation, MEBA Training School
 - C. Hands-on Marine Officer Courses, MEBA Training School
- X. BHP Billiton: Responsible Environmental Corporate Citizen
 - A. BHP Billiton Cabrillo Port Recognizes and Addresses Environmental Concerns: Commits to Environmentally Sound Project
 - B. BHPB's Environmentally Friendly Choice: Close Loop Re-gasification
 - C. Cabrillo Port's Environmentally Friendly Choice: Clean LNG as Fuel Source for Tug and Supply Boat Vessels

D. BHP Billiton's Environmental Commitment to Safe and Secure Handling of Waste Water Discharge

- *SCV Waste Water
- *Ballast Water Discharge
- *Deck Drainage
- *Gray Water
- *Sanitary Waste
- *Desalination Unit Wastes
- *Non-contact Cooling Water
- *Fire Control System Test Water
- *Bilge Water

E. Floating Storage and Re-Gasification Unit (FSRU) Technology:
Comprised of Proven Components of Maritime Technology

- XI. Environmental Groups Not Opposed to LNG: Opposed to Open Loop; Close Proximity to Population Centers
- XII. United States Maritime Administration Encourages Use of U.S. Mariner Citizens Throughout the Project
- XIII. Congressional Policy Supports the Use of U.S. Merchant Mariners on LNG Vessels
- XIV. APPENDIX (note: Appendices will not be attached on electronic filing but will be attached on the hard copy version).

I. Introduction

The Marine Engineers' Beneficial Association (MEBA) represents US Coast Guard licensed merchant marine officers who work on freight, tanker and passenger vessels engaged in both the US domestic and international trade. Our members have well over twenty years of experience working as licensed deck and engine officers aboard liquefied natural gas (LNG) carriers. LNG carriers are highly specialized ships that transport liquid natural gas from on-shore facilities to markets around the world. Given the energy demands of the United States and the West Coast in particular, it is now commonly accepted that our country's energy interests are increasingly and significantly dependent upon the steady, dependable supply of natural gas to our communities. For those of us on the West Coast, this means that our natural gas will be obtained from overseas fields and delivered on LNG carriers.

MEBA has extensively reviewed and analyzed the various LNG proposals currently pending before California and US agencies. It has done so with a careful and expert eye on the transport safety and security needs of our nation and our communities. And, although we do not purport to be experts on other issues relating to the supply of natural gas, we live in the very communities that are most affected by the energy crises that haunted our coast and our country. We know that our nation's and our communities' energy needs are closely intertwined with our national security, economic and environmental needs and, that these issues must be accommodated.

BHP Billiton's Cabrillo Port LNG project best accommodates these needs, and MEBA supports it. We urge our neighbors, our local elected officials and our state and federal agency executives to support the project as well.

BHP Billiton (BHP) is a world-renown energy company based in Australia, one of America's strongest allies. Using LNG carriers, BHP proposes to supply natural gas from Australia's northwest shelf and deliver it to a state-of-the-art facility (Floating Storage and Regasification Unit, "FSRU") located offshore that will connect to new and existing natural gas pipelines. The offshore facility will use industry-leading technology. It will be located approximately 14 miles offshore and more than 20 miles from the nearest major population center (Oxnard). Located far from shore and international shipping lanes, it is among the safest LNG projects under consideration in the country.

Its geographic security advantages alone are not enough, of course, and must be further protected by US Coast Guard licensed and endorsed mariners aboard the LNG carriers and on the FSRU. It is recognized by all levels of the United States government that the safest and most secure means to prevent breaches of national security affecting our country's seaborne commerce is to operate vessels calling on the United States with US Coast Guard licensed and certified merchant mariners. BHP recognizes the critical need to help guard against security threats to protect the very markets that it intends to service, and we believe it is committed to fulfilling this critical objective using US licensed and certified mariners, all of whom are highly trained and skilled professionals who represent a largely untapped vital source of labor in an international LNG market that is otherwise suffering from a severe shortage of qualified mariners.

From an economic perspective, BHP's off-shore receiving facility would not hinder California port operations. In contrast, LNG projects predicated on land-based receiving facilities likely would disrupt port traffic and cargo operations in order to ensure the safe transit of the LNG carriers and safe discharge of the gas. BHP's offshore facility avoids such costly and disruptive problems. Also, BHP's LNG carriers will be environmentally cleaner and discharge far less emissions than traditional cargo ships currently calling California ports. And the new pipeline connecting the off-shore facility to existing on-shore pipelines will have a minimal impact on the marine and on-shore environment. The pipeline will also benefit the local community by providing new, well-paying construction jobs, and will also create new, local-based, well-paying permanent jobs.

Assuming that BHP commits to taking the necessary steps to protect our country's and our communities' national security and safety needs – and we believe it is indeed so committed – and in light of the economic and environmental advantages presented by BHP's proposal, we support this project and urge that after due and thorough consideration, it be approved.

II. Regulatory Authority of the Governor of California and the California State Lands Commission; BHP's Discretion

The following MEBA comment analyzes the Cabrillo Port Project and offers solutions to the critical world-wide shortage of qualified LNG Officers and the lack of infrastructure for LNG training that is dangerously close to becoming a catastrophe for the otherwise historically safe and secure transportation of LNG. Currently there are no LNG ships crewed by American citizens. This is a major problem and a threat to safety and security as will be explained in depth throughout this comment.

In accordance with Section 1.1.2 of the Revised Draft EIR, MARAD may not issue a license without the approval of the Governor of the adjacent coastal state (33 U.S.C. Sec. 1503 (c) (8)0. The adjacent state is California. The Governor of California has the broad authority to either approve, approve with conditions, or deny the Deepwater Port Application (DWP) license. Accordingly, MEBA respectfully requests that the Governor approve the Cabrillo Port Project with conditions attached that utilize U.S. Coast Licensed Officers and mariners for all aspects of the project including the LNG Carriers, FSRU and tug boats and supply vessels servicing the Deepwater Port. The safety and security of California and the American people deserve nothing less.

The State Lands Commission (CSLC) may lease the State's tide and submerged lands for certain public trust purposes, including navigation, fisheries, commerce, recreation, and environmental protection and preservation. In connection with the proposed project, the CSLC must consider whether or not to grant a lease of State Lands for the subsea pipelines. The lease may also include conditions relating to those parts of the project not located on the lease premises. See Revised Draft EIR Section 1.1.4. Like the Authority of the Governor, MEBA respectfully requests that the CSLC attach conditions that utilize U.S. Coast Licensed Officers and mariners for all aspects of the project including the LNG Carriers, FSRU and tug boats and supply vessels servicing the Deepwater Port.

Indeed, this would significantly help ensure the safe and secure oversight of public trust purposes.

With respect to BHP Billiton, it has great amount of discretion with respect to selecting the workers it will utilize throughout the Cabrillo Port project, MEBA respectfully requests that it seriously consider the benefits of using MEBA personnel, U.S. Coast Guard Licensed Officers and mariners. MEBA can compete economically in the world LNG transportation market and provide highly skilled professionals on a long term basis thereby ensuring a stable work force and the best practicable safety and security that all Californians are entitled to and deserve.

III. Need for Shipboard Import of LNG to California

The California Energy Commission (CEC) estimates that California's demand for all uses of natural gas will grow by approximately 0.7% annually from 2006 to 2016, even after taking into consideration the maximum amount of increased conservation and the use of renewable energy. According to the CEC's 2005 Natural Gas Assessment Update, California's total annual consumption of natural gas was 2,200 billion cubic feet in 2003; by 2013, natural gas demand in the State is projected to reach 2,400 billion cubic feet, in part as a result of the growing use of natural gas for electricity generation. The CEC has thus recommended that California secure and diversify its sources of natural gas to ensure a sufficient and reliable supply of natural gas. The CEC and the California Public Utilities Commission (CPUC), in their 2005 "Energy Action Plan II: Implementation Road Map for Energy Policies", state that California must promote infrastructure enhancements and diversify supply sources to include LNG. The plan includes the following key actions: (1) develop a process to facilitate the prompt and environmentally sensitive evaluation and siting of needed LNG facilities; (2) provide that the natural gas delivery and storage system is sufficient to meet California's peak demand needs; and (3) encourage the development of additional in-state natural gas storage to enhance reliability and mitigate price volatility.

According to the Federal Energy Regulatory Commission, U.S. gas demand is expected to increase by 40% by 2025 to 30.7 trillion cubic feet (TCF).¹ However, domestic supply, which has not equaled demand for many years, will only increase by 14.5 %. Without intervention, our natural gas supply will not keep pace with industry and the public's demand. Mr. Wright cites the following reasons for this situation:

- Decline in our underground domestic gas reserves;²
- Canada's problems with flattening gas production in the Western Canadian Sedimentary Basin (WCSB) and its need to fulfill its own demands;³ and
- Continuation of Mexico's growing economy with Mexico keeping an increasing share of its natural gas to meet its future demands.⁴

This means California cannot rely solely on natural gas produced in North America. Therefore, LNG will need to be imported to the United States on oceangoing LNG tankships.

Transportation of LNG worldwide is a rapidly expanding marine service. This growth has never happened so quickly before, or in a segment of the maritime industry that is technically so different from other segments. Therefore, focusing on some very important points with respect to LNG transportation, the Marine Engineers' Beneficial Association offers the following comments:

IV. Need for U.S. Merchant Marine

The U.S. Merchant Marine should play an integral role in the importation of LNG in order to ensure the utmost in safety and security that all United States citizens deserve. American Mariners, in particular the Marine Engineers' Beneficial Association, are highly skilled in the operation of steam plants used on the majority of LNG vessels and are experts with respect to operating other marine power systems such as diesel, diesel electric and gas turbine. U.S. Merchant Mariners are also subjected to rigorous background checks and competency requirements. In addition, the MEBA continues to train its members to the highest industry standards in LNG technologies. Importantly, it is the policy of Congress that priority should go to using U.S. crews for LNG vessels discharging LNG and natural gas to U.S. consumers. After all, major importing nations ensure the safe and secure importation of this vital energy source by utilizing citizen mariners from their respective nations -- the United States should do so as well.

In contrast, reliable crewing in the international LNG transportation market is in a tail-spin. It has been widely reported that international LNG ship operators are "poaching" qualified shipboard officers from each other through economic enticements. Constant crew changeover, poorly trained crewmembers and questionably qualified mariners undermine the efforts of an historically safety conscious LNG sector and pose an imminent threat to the safety and security of citizens located near or en route to LNG receiving facilities.

V. Thorough Vetting of U.S. Merchant Mariners Provides Unmatched Shipboard and Deepwater Port Security

Most people in the United States do not realize that currently all LNG entering the U.S. is carried on foreign flag ships operated by either non-U.S. citizen mariners, or aliens who are not lawfully admitted to the United States for permanent residence. Unlike foreign seamen:

- U.S. Merchant Mariners receive their credentials to work from the U.S. Coast Guard;
- U.S. Merchant Mariners undergo extensive background checks performed by the Federal Bureau of Investigation;
- U.S. Merchant Mariners are citizens of the United States or aliens lawfully admitted for permanent residence.

The question becomes whether the American people desire to have fully vetted U.S. citizens guarding their safety and security while LNG is being delivered to their regions.

VI. International Fleet Discards Steam Ships

For reasons of thermal efficiency, the rest of the world began the rush to change over to diesel propulsion more than 30 years ago. The steam vessels they replaced were sent to

scrap yards. As the foreign-flag steam vessel fleet disappeared, so did the international know-how to operate steam plants and the need to teach students steam technologies. The international foreign flag fleet certainly has succeeded with the changeover from steam to diesel.

VII. U.S. Merchant Marine—Abundance of Expert Steam Engineers

The United States began to change from steam to diesel during the 1970's oil embargo as well, but more gradually than the international maritime industry. American-flag shipping companies did not scrap their steam vessels as quickly as international companies. Many U.S. shipping companies either built or purchased new vessels as additional tonnage and kept their steam vessels operating or in reserve. As a result, there are many U.S. steam vessels operating today. In addition, maritime academies in America continue to teach their cadets steam engineering principles and as a result U.S. Merchant Mariners have an excellent hands-on, practical-working knowledge of steam plants.

VIII. INTERNATIONAL SCOPE

A. International Facts: Shortage of Steam Engineers

As reported in the *Coast Guard Journal of Safety at Sea, PROCEEDINGS, of the Marine Safety & Security Council*, Fall 2005, Dr. Hisashi Yamamoto, Secretary of the International Association of Maritime Universities (IAMU), notes that there is a shortage of qualified seafarers for existing LNG carriers, as well as for LNG vessels scheduled to be delivered over the next five years and beyond. He points out that there is not enough time to educate and train deck and engineering officers for delivery of new LNG ships on order or under construction. Moreover, Dr. Yamamoto articulates that there is a shortage of capacity for educating and training LNG mariners world-wide, in terms of facilities, training capabilities, and, above all having enough qualified instructors with sufficient experience of actual service onboard LNG carriers to train the next generation of LNG seafarers. See *Proceedings*, Fall 2005, p. 47. Please keep in mind that it is apparent that Dr. Yamamoto is basing his conclusions on the international LNG market and not on what the United States Merchant Marine has to offer by way of training, experience, facilities and the fortitude to protect the American people.

The overwhelming majority of LNG ships traversing the oceans today (and future newbuilds) are powered by steam turbines. LNG ships use steam turbines for the main propulsion system and the main and auxiliary generators because the boiler furnaces efficiently use the boil-off gas from the LNG cargo tanks as the source of fuel that converts distilled water to steam.

According to IAMU and Clarkson Research Services (Clarkson), demand for steam turbine engineers will increase significantly. The IAMU claims that LNG vessels are among the only type of commercial cargo ships that employ steam turbine engineers today. That is more or less true in the foreign flag fleet; however, there are numerous steam-powered U.S.-Flag freighter and tankships mainly in the Jones Act trade routes and in MarAd's Ready Reserve Force fleet. Therefore, U.S. Merchant Mariners, unlike their

foreign counterparts, are highly skilled and well schooled when it comes to steam propulsion plants.

Dr. Hisashi Yamamoto reports that over the past 30 years, since the first oil crisis in the early 1970s, the world [meaning foreign flag] maritime community significantly reduced its capacity to educate and train steam plant engineers. This is no doubt a true statement for the international fleet, but the United States Merchant Marine is certainly the exception and extremely unique in that respect. Every maritime academy in the United States teaches steam engineering as a prerequisite whereby cadets graduate with an Unlimited U.S. Coast Guard Third Assistant Engineer's Steam License.

To illustrate the point of steam vessels and the significant role they will play in the LNG world market, Clarkson Research has analyzed the estimated demand for steam vessels/engineers as of May 2005:

In 2004-	2 steam LNG vessels were launched;
In 2005-	20 steam LNG vessels were launched;
In 2006-	27 LNG vessels are expected to be launched;
In 2007-	30 LNG vessels are expected to be launched;
In 2008-2010-	86-101 LNG vessels expected to be built.

Tim Colton of Maritime Business Strategies⁵ itemizes that there are currently 198 steam propulsion LNG vessels operating in the world market and only approximately five diesel⁶ LNG vessels. Mr. Colton estimates that there will be an additional 81 steam LNG vessels delivered over the next four years, bringing the steam LNG fleet to approximately 280 vessels. This means that there is and will continue to be a severe shortage of (1) qualified LNG officers under any type of propulsion system and (2) competent LNG officers that can understand and successfully operate shipboard steam plants. It is worth noting, that like marine engineers, LNG deck officers must be familiar with steam engineering principles for the safe operation of LNG vessels. There are new LNG propulsion systems that are anticipated to come on line but the fact remains that steam is the known and proven technology.⁷

B. International Trend: Widespread Retirement of LNG Officers Forecasted

The number of mariners with LNG experience is rapidly declining, mainly through attrition. The dearth of experienced LNG officers is expected to be a massive worldwide problem by 2010. The age structure of Japanese seafarers vividly illustrates the retirement problem. Japan is currently the largest purchaser of imported LNG in the world consuming about 47% of the total ocean-borne LNG. Japan also has the most LNG ships in its national registry with 25 under its flag as of September 2004. Japanese senior officers are the core of the safe operation of the country's LNG fleet. As of October 1, 2002, there were a total of 2746 Japanese officers, out of that number 56.8% were older than 45, and 66.5% were over 40 years of age. According to the Japanese Ship Owners' Association, the retirement age for officers in the major Japanese shipping

companies is 53, and it is expected that almost all of the senior officers in that age group will retire before 2010.⁸

The critical problem of the widespread retirement of marine officers is not unique to LNG but rather a reflection of the manpower crisis facing the global shipping industry. A maritime industry analyst lamented, “As employment conditions at sea deteriorate and seafarers face increasingly hostile regulatory authorities in ports and terminals they visit, old sea-hands with long experience at sea are coming ashore in growing numbers.”⁹ That same article notes an unnamed London operator who believes that manning the world fleet tomorrow will become a nightmare.

It is unclear where the next generation of experienced mariners will come from. “Throughout the long 1980s recession, few shipping companies bothered to run any officer recruitment programmes and there is now an imminent shortage of the experienced sea staff, above and below deck, needed to operate the world’s ocean-going fleet.” One estimate is that the industry will require 24,000 officers of the next three years to man ships due to join the fleet. This dire situation is only made worse for LNG operators given the unique skills necessary to safely crew this sophisticated vessels.¹⁰

Again the aforementioned did not take into consideration the largely untapped pool of resources that can be obtained from the United States.

C. International Trend: Problems with Incoming Generation of LNG Officers

The younger generation of sea-going deck and engineering officers is withdrawing from the industry prematurely. These junior officers are showing less and less interest in continuing to go to sea and they are typically leaving for shore-side positions prior to taking on senior level seagoing positions. This has made it difficult for ship owners and operators to ensure a sustained supply of senior officers. There is as of yet no effective means to counter this tendency. Again, this is based on a report in the U.S. Coast Guard *Journal of Safety at Sea, Proceedings* regarding the international (non-U.S. Merchant Mariner) pool of shipboard officers. The U.S. Merchant Marine was not considered in this report. Indeed, had the U.S. Merchant Marine been considered, the resulting report would have shown that there is a vibrant and growing U.S. Merchant Mariner pool resulting in part by investments made in the passenger, freighter and tanker vessel maritime sectors.

D. International Crisis: Wide Scale Officer Shortage Resulting in Foreign Ship Operators “Poaching” LNG Officers; Poor Training; Steep Decline in Safety and Security; and Violations of International Law

As reported in numerous articles and studies conducted by leading international maritime trade publications including Tradewinds and Fairplay, LNG owners and operators are lashing out at each other with allegations of “poaching”, conducting insufficient training in violation of ISM Code as well as failing to properly check past employment references.

The sudden and sustained surge in global demand for liquefied natural gas and the worldwide shortage of mariners with LNG and steam experience is leading to predictable results. Shipmanagers seem willing to do whatever they can to get their ships fully crewed in the face of a growing wide-scale officer shortage. “The industry had previously grown slowly, so companies were able to train manpower and expand operations at a comfortable rate of two to three ships every two years,” Keith Bainbridge, director of LNG Shipping Solutions, told *Fairplay* magazine in 2005 “But where an industry experiences 40-50% growth within a couple of years, it will split at the seams,” he predicts.¹¹

This manpower crisis is made even worse by new shipmanagers entering the LNG trade. A *Fairplay* article titled, *Poaching War for Crew Erupts*, cited the “voracious appetite for scarce manning resources, both at sea and onshore. This has created severe competition among LNG owners.”¹²

The Society of Gas Tanker and Terminal Operators LTD (SIGTTO) has recognized the acute shortage and the reaction by some. “A short-term answer for an LNG vessel operator is to “poach” crew from another such operator but, clearly, the long-term answer is training, training, and further training. SIGTTO members, as much as anyone, wish for the quite unique safety record of LNG shipping to be preserved. The influx of new personnel into the industry is of concern, especially if there is a temptation by a minority of operators to “cut corners” and put officers into positions of responsibility on a LNG carrier before they have been properly trained.”¹³

In an article titled *Officer Crunch Sparks Safety Alarm*, Anglo Eastern Ship Management’s training director Pradeep Chawla states that “intense pressure to promote more maritime officers is resulting in inexperienced officers making more mistakes and more dangerous situations on board. The training director noted that, “shortages have made it harder to retain officers because manning agents use higher wages to lure away experienced seafarers, especially in LNG/LPG and other specialized trades.”¹⁴ Moreover, not all companies train officers, with many resorting to poaching.

The crewing crunch is giving rise to new and dangerous theories of crewing to meet the sustained demand. “Some operators are contemplating an airline-style approach, training their crew units to ever-higher standards and frequently rotating them among vessels. That would fly in the face of an industry that had, until last year, been characterized by its conservatism on crewing and had viewed rapid crew rotation as a threat to safety.” The article mentions that with the shortage, there is an “increasing incidence of crews of strangers being cobbled together with precious little time to develop mutual trust and overcome their natural fear of blame.”

In an article titled *Near Calamities in Cargo Operations*, *Fairplay* details two case studies, on international vessel crewing practices, to illustrate the dangers of new crew members who are unfamiliar with the vessel or on-board procedures. “In both incidents, one of the factors that contributed to the near calamities was the fact that one or more of the crewmembers involved were new to the ship and unfamiliar with all aspects of the

vessel.” “The importance of learning the idiosyncrasies of a particular vessel cannot be overstressed, and even when crew are transferred to sister ships they should not assume that every feature of the ships will be the same.” As noted above, short cuts in manning and “inventive” solutions to crew shortages can prove to be a recipe for disaster.¹⁵

The consequences of crewing instability and poaching can also lead to serious deterioration of the relationship between mariner and management. “There has to be a management team in which officers can pick up the phone and discuss problems openly, rather than hiding them until it is too late” says Simon Pressly, GM of Dorchester Marine, an LNG vessel operator in a *Fairplay* article. The author continues with the observation that, “Unfortunately, with poaching so rampant, the dangerous lack of crew continuity is likely to continue until operators start making the requisite investments in manpower training.”¹⁶

Tradewinds states that the LNG-crewing shortage is giving rise to some serious shortcomings that are a direct threat to the industry’s safety record and are in violation of the International Safety Management (ISM) Code. Some operators and ship managers are employing senior-level ship’s officers that were terminated from employment by competing companies due to poor performance and substance abuse¹⁷.

On another front, big international shipping companies and ship management firms like GOLAR and NYK LINE are feeling the LNG crewing pinch. Some operators are enticing LNG shipboard officers to switch companies by offering wages at 30%-40% higher than what has been paid in the past—and officers are switching companies and leaving their former employer in crisis. Some companies are offering over \$18,000 a month (in wages only, not including benefits) to attract qualified LNG officers¹⁸.

All decision makers and stakeholders involved with the importation of LNG to the United States must take notice of what is going on in the international market. With growing natural gas demands and some 50-plus applications on the books for LNG import terminals, the American people need to be assured that the most highly trained and experienced personnel are transporting security sensitive LNG to the United States. There is no room for error when it comes to liquefied natural gas. Like no other time in history, the economics are in place whereby the U.S. Merchant Marine can economically and safely deliver LNG cargo; provide a stable pool of mariners for the long term; provide the highest amount of training; and comply with all U.S. and international laws. The American people deserve nothing less.

E. International Consequence: Insurance Underwriters Deeply Concerned with Inexperienced Crews Aboard LNG Vessels

A recent article titled *LNG Ships Facing Premium Boost* details the nervousness of the insurance industry as the LNG fleet suffers through poorly managed growing pains. “Underwriters appear to be changing their view of LNG vessels, which have traditionally been regarded as particularly well managed, despite being costly and potentially hazardous.” Now, higher insurance premiums are the prospect for LNG vessel owners as a result of “a big deterioration in the claims record of the world gas fleet.” Marsh, the

largest insurance brokering group issued a report concerning claims of more than \$400 million run up by the LNG fleet.¹⁹

Higher insurance premiums are in prospect for owners of LNG carriers after a spate of claims including operational incidents have left insurance underwriters facing big losses according to Marsh.²⁰ Marsh reports that risk profile is increasing due to a shortage of crew with LNG experience.²¹

With 200 LNG vessels in service and over 100 on order, Marsh identifies a number of factors associated with the rapid growth as adding to the risk profile of the gas-ship fleet including shortage of crews with LNG-carrier experience and new owners entering the market with the intention of trading vessels on the spot market rather than traditional long term charters.²²

**F. International Reaction: Responsible Shipping Ministries
React to Manning Shortcuts and Abuse; Use of National Flag
Vessels Promoted By Major Importers**

The worldwide shortage of mariners and the severe competition among ship-owners is leading to drastic cuts in manning with sometimes fatal results. An article titled, *Modern Seafaring Can Kill You*, notes the rising rates of suicide, murder and poor health among Indian seafarers and details India's response on behalf of its mariners. India's director general of shipping, GS Sahni believes that severe competition has compelled international ship-owners to cut down on manning. "Crews that numbered 50-55 few years ago have now come down to just 20 or less. Stress and fatigue has become a part of seafarer's tough life. With total strength of 15, there's no time for the floating staff to interact with each other since they are kept busy all the time and there is no peer sense." Captain MM Saggi, a nautical advisor to the government of India, says that stress and fatigue have led to several incidents of suicide, murder or seafarers going missing. "Ship-owners employ fewer seafarers, otherwise they feel they run the risk of going out of business. A situation develops where some employ fewer persons, yet keep whipping the crew and using them as slaves."

An official from the Indian shipping directorate notes that, "Indian ships do not face such problems because seafarers have their unions and as a result of the large manpower available, there is 20-25% more persons on board." A similar approach is taken in the U.S. by the Coast Guard in tightly regulating the minimum required number of mariners to safely operate a vessel under U.S. flag. The certificate of inspection (COI) ensures that proper manning of vessels for both the safety and security of the vessel and its cargo. However, in the international shipping business, the flag flown over the bow (registry) determines the wages paid and the minimum standards followed. As the Indian example shows, some registries promote a lowest common denominator where strict employment and environmental standards no longer apply. This underscores the importance of the choosing the right people, both shoreside and at sea, for the sensitive job of carrying LNG to the California coast.²³

India's Shipping Ministry also took the lead in requiring Indian manning and Indian registry for LNG vessels importing to the Indian coastline. For the time being, the Indian Ministries of Commerce and Petroleum & Natural Gas has prevailed in the internal battle, handing India a set back in its efforts to build a domestic flagged LNG fleet. However, some of the world's largest importers of LNG, Japan and Korea, are an increasingly powerful consumer of LNG, have made registry of LNG ships a matter of national maritime policy. "Japan transported about 43% of its total LNG import of 59.1 million tons in 2003 on Japanese owned and controlled ships. Similarly, Korea transported about 61% of its LNG imports of 19.3 million tons in the same year on Korean controlled ships. In the combined import of Japan and Korea, third-party owned ships constituted only 8.3 percent," says a shipping industry representative.²⁴ It is notable that Japanese and Korean controlled vessels are in respectable registries and do not cut corners on crewing in order to compete on the world market.

If Japan and Korea utilize their citizens to ensure safe and secure importation of LNG to their countries, the United States should do so as well.

G. International Trends: Decline of International Maritime Education

There is a global trend in university systems to put particular emphasis on enhancing competence in academic and research activities to the detriment of hands-on fields of a highly vocational nature such as seafarer education and training. For example, in the EU there has been a shift in focus from the practical seafarer education and training to research and academic activities. In Japan, the Tokyo University of Mercantile Marine and Kobe University of Mercantile Marine both lost independence in 2003 resulting in strengthened research capabilities but at a cost to seafarer education and training. This trend of diverting funds from practical hands-on maritime training and directing money towards maritime research is harmful to the individual cadet.²⁵ Fortunately, the U.S. maritime academies, as well as continuing education training facilities like the Calhoon MEBA Engineering School, are the exceptions to this global trend.

Another example of the global training crisis is found in the Philippines, a leading provider of mariners worldwide. There, the country is facing a dramatic slump in the number of Filipinos qualifying for deck and engine licenses. In an article titled, "*F for Filipino Failure*", Tradewinds notes that while the Philippines produced 7,644 third mates in 1999, zero third mates licenses were issued in either 2004 or 2005. Zero new second mates qualified last year, either. Fourth engineers also dropped from 9,330 to zero. And there were zero new third engineers last year. The same article notes that three years ago, Norway, which employs around 20,000 Filipino seafarers, withdrew its recognition of two government-approved colleges after complaints from owners and masters about the skill levels of the mariners being produced by the Philippines. Again, the U.S. maritime academies, as well as continuing education training facilities such as the Calhoon MEBA School, are viewed as healthy, reliable and strong. With a clear policy towards meeting ocean transportation and national security needs, American cadets have an advantage over their international counterparts.²⁶

IX: SUPERIOR DOMESTIC MARITIME RESOURCE: CALHOON MEBA TRAINING SCHOOL

Regardless of the propulsion system that BHP Billiton decides to use for the LNG carriers, whether Steam, Dual Fuel Diesel Electric, Diesel Re-liquefaction, Diesel or even Gas Turbine, the Marine Engineers' Beneficial Association can provide a stable pool of fluent English-speaking, fully vetted (Federal Bureau of Investigation), and highly skilled and trained United States Coast Guard Licensed shipboard officers for the entire Cabrillo Port project. The focus below is on the training services that MEBA provides today. The training matrix MEBA offers is fully capable of expanding to meet the needs of the maritime community- - including the needs that would enhance the safe and secure delivery of LNG to California.

A. Unparalleled LNG Training in the United States: One of the World's Newest and Most Sophisticated Bridge Simulators

The Marine Engineers' Beneficial Association represents the largest number of qualified and experienced civilian steam engineers in the entire world. Moreover, MEBA operates a world renowned training facility, the Calhoon MEBA Engineering School (CMES), in Easton, Maryland. The school is fully accredited and certified by the U.S. Coast Guard and Det Norske Veritas (DNV). The MEBA School provides LNG training to organizations such as the U.S. National Transportation Safety Board and Transportation Safety Board of Canada & Transport Canada.

The MEBA training facility trains both deck and engineering officers and has recently installed a cutting-edge Bridge Simulation System designed and built by TRANSAS USA. The simulator is one of the newest and most sophisticated systems in the world. The interactive program allows students to simultaneously control simulated ships utilizing any of 56 different types of vessels in over 20 different ports. In addition to the ten ships that can be controlled within one scenario, instructors can further intensify the simulation by implanting multiple computer-controlled ships into the scenario. Unlike many existing bridge simulators, each station, operating a different type of vessel (including LNG vessels), can interact with every other station simultaneously. The LNG cargo simulation program allows students to dock, load and discharge LNG vessels. Moreover, the computerized system even encompasses the terminal-side operations of an LNG facility. It accommodates upgrades to adapt to ever-evolving Coast Guard and International Maritime Organization training and testing requirements.

B. Engineering Simulation, MEBA Training School

The Calhoon MEBA Training School trains its marine engineers in part through the KONGSBERG Automation Systems. Kongsberg shipboard automation and control systems are world-renowned.

The modular design of the DataChief® product line covers a broad range of applications, from low complexity alarm systems to highly integrated alarm and monitoring systems with advanced process control and power management. Recognizing the vast application of these systems in the industry, the Calhoon MEBA Engineering School (CMES)

conducts operational training on the DataChief® system using simulators purposefully designed by Kongsberg. Typically, this training addresses normal and emergency operation in the following areas:

- Auxiliary control system
- Power management system
- Propulsion control
- Ballast automation system
- HVAC (air conditioning)
- Management support
- Refrigeration monitoring
- Fire system

Kongsberg's high fidelity engine room simulator models are developed in close co-operation with maritime research institutes around the world and are continuously being refined. CMES' model library of engineroom simulations includes:

- Slow-speed Diesel MAN B&W 5L90MC VLCC
- Medium-speed Diesel Pielstick 10PC4 Shuttle tanker
- Steam Plant AP25 VLCC
- Diesel Electric AC/AC Cruise ship - DE22
- Gas Turbine LM2500 - GT22

The simulators are physics-based real-time process models with a dynamic response that complies with the training requirements of the IMO and the USCG. Kongsberg is the proven leader for shipboard automation and control systems for LNG carriers. The MEBA has teamed up with Kongsberg in order to provide Officers with the most up to date training.

C. Hands-on Marine Officer Courses, MEBA Training School

The Calhoon MEBA Engineering School (CMES) prides itself in developing and offering courses before the need becomes apparent in the US marine transportation industry. Many of our legacy courses are still filling today's training needs, such as:

Tankship Liquefied Gases (LNG): This course has been part of the MEBA training core since 1975. It provides U.S. Coast Guard Licensed Deck and Engine Officers with the knowledge to safely and efficiently transport LNG. This LNG course is a USCG prerequisite for employment aboard LNG carriers. Comprehensive lecture, lab work, and computer training include LNG science, engineering systems, cargo systems, stability, and safety. This course complies with the IMO Code for the LNG Vessels.

The LNG course provides training for officers and ratings assigned specific duties and responsibilities related to the cargo and cargo equipment. Additionally, it provides masters, chief engineers, officers, and any person with immediate responsibility for the loading, discharging, and care in-transit or handling of cargo. It comprises a familiarization and specialized training program appropriate to their duties and

responsibilities including: characteristics of liquefied gas cargos and their associated hazards, gas tanker safety, fires safety measures and systems, pollution prevention, emergency operations, cargo equipment and operations, and operational practice and obligations under applicable laws and regulations.

IMO Model courses 1.01, Tanker Familiarization and 1.06, Specialized Training for Liquefied Gas Tankers serve as the frame work for this course. Direct reference is made to the training course requirements of 46 CFR 13.121 and section A-V/1 (paragraph 1-7 & 22-24) of the STCW Code. Additionally, elements of the International Safety Management Code (ISM code) have been applied where applicable.

Diesel Engineering and Applied Diesels: The Diesel Engineering course is designed to provide marine engineers working knowledge of the theory, construction, operation, and maintenance of main propulsion and auxiliary diesel engines, engine control systems, and related auxiliary equipment. Lab sessions utilize a Sulzer 1RND68 engine trainer, a Sulzer Bridge/Engine Room Control Console, an ALFAX/ALCAP purifier, and MAR-TEC fuel oil testing cabinets. This course was developed in the late 1970's to satisfy the shortage of US Commercial Marine Diesel Engineers. The Applied Diesel Course expands upon existing knowledge of marine diesel engines and support systems that the student acquires through employment on diesel vessels. The emphasis throughout this course is maintenance, inspection, and troubleshooting (both actual units and computer based simulations) of major engine parts, purifiers, and pneumatic control systems; particularly those associated with the Sulzer low speed diesel engine. Extensive use is made of the school's one cylinder Sulzer RND 68 trainer.

Gas Turbine: Long before the gas turbine-powered Large Medium Speed Roll-on Roll-off (LMSRs) vessels were placed into service in 1996, the MEBA was operating the Gas Turbine Ship (GTS) Adm. Callaghan. This ship was put into service in the late 1960's and still operates for Military Sealift Command as a strategic sealift resource. Hence, CMES has provided gas turbine training to its members when other training organizations felt it superfluous. Our gas turbine course is designed to provide an introduction to, and an understanding of, gas turbine propulsion systems as used in the marine field. Areas of study include, system technology, thermodynamics, construction and installation designs, monitoring and control instrumentation, and propulsion configurations. Specialized course work on specific engines such as the General Electric LM2500, Allison/Rolls-Royce 501K, and the Pratt-Whitney FT-4A provide the student with an overview of various propulsion systems found in the industry today. Fuel oil preparation, reduction gears, propeller systems (including controllable pitch designs), turbine controls, and total plant operation are also included.

Medium-speed Diesel Engineering: Medium Speed Diesels have served as the backbone to power tugboats, supply vessels, and ship's service generators for decades. It has only been since the introduction of the integrated diesel electric drive systems that these engine-types have been given significant attention in the maritime training organizations. The course is designed to provide those students already having diesel engineering experience and/or education with a more focused approach to propulsion

systems utilizing medium speed diesel engines as the prime mover. Topics presented include classification society and regulatory requirements, fundamentals of diesel/electrical engineering, specific information on several medium speed diesel engines currently utilized as vessel main propulsion and power generation systems. In addition, students are trained in various types of actual propulsion output systems coupled with medium speed diesel engines, operational aspects concerning the various drive systems. Familiarization with auxiliary support equipment for drive and driven machinery is also covered. Throughout the course, emphasis is placed on both the operational level and management level with respect to medium speed type of propulsion system and its applications.

Steam Engineering: While other maritime training organizations around the world have de-emphasized training on steam power technologies, MEBA has sought to expand and improve its Steam Engineering Course every year. The course is designed to give the licensed marine engineers working knowledge of theory, construction, operation, maintenance, and casualty control of marine steam propulsion power plants. The topics covered include general steam principles, steam generation, turbine construction and operation, boiler feed water systems, water chemistry, and combustion control systems. As part of the course, MEBA trains its students on actual operating steam vessels; steam simulator; static display integrated steam training plants; water testing labs; and steam utility plants. This course is fully supported by the U.S. Coast Guard and successful completion of steam engineering enables a licensed engineer seek a Second Assistant Engineer-Steam license regardless of the level of diesel/motor license currently held by the engineer. In addition, students may also cross-over and receive the equivalent level of a diesel/motor license currently held, if the level of a steam propulsion endorsement already exists at the level of the Second Assistant Engineer or higher.

Data Communications & Networking: Nearly all new ships utilize data communication networks for control, alarm and monitoring functions. Many older ships have been retrofitted with similar data communication equipment. MEBA saw the need to train its U.S. Coast Guard Licensed Officers in this technology nearly a decade ago. The Data Communications and Networking Course provides lectures and student labs, covering modern PC-based networking principles by combining classroom theory and hands-on practice. Lectures begin with a review of the physical principles involved in data communications, historic development, and a technical review of communication terminology. Communication standards, network protocols, network topologies, and various hardware implementations are studied. Transmission media, network interfaces, repeaters, hubs, bridges, switches, and routers are covered in the context of the standard OSI communications model. Peer-to-peer and client-server networks are emphasized. Commercial electronic mail and satellite based reporting systems for the maritime industry are examined and demonstrated. Fiber optics, Industrial Ethernet, and wireless LAN technologies are also introduced. Lab projects include cable preparation, transmission media testing, configuration of peer-to-peer networks, network resource sharing, network security, use of a TDR (Time Domain Reflectometer), and hands-on troubleshooting exercises. An MS-Windows operating system will be utilized throughout the course.

High Voltage Training: Our High-voltage Safety Course, which complements scenarios faced on integrated marine diesel-electric drive systems, covers the knowledge and skills needed to safely work with energized high-voltage high-energy electric power systems. Principles and procedures for the safe operation and maintenance of marine low voltage (<1 kV), and marine high voltage (1-15 kV) equipment are covered. Insulated hand tools, "hot-sticks", proper grounding procedures, proper protective clothing, and thorough job-planning procedures are stressed throughout the course. Properties of electric charge, energy, electric potential, dielectric stress, capacitive and inductive coupling, and material behavior in electromagnetic fields are covered. The effects of electrical energy on humans and various protection concepts are addressed, as are basic first aid practices. Differential protection schemes, insulation materials, Faraday cages, equip-potential grounding, live-line tools, and isolation techniques are covered from both the technical and practical perspectives. Various OSHA, IEEE, European, NFPA, Electric Utility, and Shipping Company safety procedures are reviewed. Group exercises include the development of safe-work protocols, use of lockout/tagout (LOTO), maintenance task rehearsal, and equipment preparation. Actual measurements and maintenance tasks are then conducted on a live 12.4 kV three-phase power system by the same groups. Calculations of fault current, arc-flash hazards, and proper PPE selection are studied. Other technical topics covered include insulation testing (IR/PI/DAR/DD), four-wire Kelvin low-resistance testing, corona detection by ultrasonic and RF detectors, and signature analysis using an infrared imager.

Marine Electric Propulsion: In conjunctions with the High-Voltage Safety Course is MEBA's Marine Electric Propulsion course. This survey course covers the principles and technologies used in the design and operation of marine electric propulsion drives based on the synchro-converter configuration. The course begins with a review of the generation and control of three-phase electric power. Power flow is followed through cables, switchboards, phase shifting transformers, and SCR-based controlled-rectifiers to the DC-link. Six-pulse inverters supplied from the DC-link are studied in detail, as are synchronous propulsion motors and their excitation systems. For each portion of the drive system studied, appropriate elements of electric power systems, power electronics, instrumentation, and operational maintenance requirements are discussed. Practical demonstrations are offered to reinforce important fundamental concepts. Additional topics include buck and boost converters, phasor notation, transformer vector groups, harmonics, harmonic filters, CTs and VTs, SCR testing, heat-sinking and thermal management, soft-starters, phase control, P-Q-S analysis, EMI/RFI mitigation, and various other power system principles.

Programmable Logic Controllers (PLC): PLC units are the technology of choice for new-builds and retro-fitted vessels. This upper-level course consists of lectures and student labs, covers the theory and practical application of programmable logic controllers (PLCs) with an emphasis on their application to maritime and industrial environments. Topics include historic development, electro-mechanical and digital-logic technologies, number systems, Boolean algebra, ladder logic programming, analog and discrete I/O specifications, internal logic functions, specialized hardware, digital and

analog control applications, and industrial networking basics. The Allen-Bradley SLC-500 & Microgix families are the primary PLCs utilized. Instruction with the Siemens's S7-300 and LOGO families of PLCs is also offered. Labs and exercises are designed to be progressively more challenging. Student exercises range from the design of simple interlocks and changes to alarm point response, to control schemes requiring precise event timing, proper output sequencing, decision trees, analog I/O manipulation, and the setting of PID control parameters. Practical troubleshooting includes the use of I/O forcing, I/O data tables, field-device testing, and appropriate use of internal PLC diagnostics. Proper documentation procedures are stressed for all projects. Time is available outside normal class hours for additional practice and for completing required assignments.²⁷

X. BHP BILLITON: RESPONSIBLE ENVIRONMENTAL CORPORATE CITIZEN

A. BHP Billiton Cabrillo Port Recognizes and Addresses Environmental Concerns: Commitment to an Environmentally Sound Project

Cabrillo Port is committed to operating an environmentally sound project where it is determined to use a closed loop re-gasification heat exchangers as opposed to open loop heat exchangers. Further, the tug vessels and supply boats servicing the FSRU and LNG carriers will be fueled by natural gas, as opposed to just diesel oil. In addition, BHP Billiton is required to have a Federal water discharge permit, or NPDES permit. BHP Billiton has identified the environmentally safe and secure procedures it will implement with respect to waste water discharge. Finally, many of the concerns that environmental groups nationwide have raised with respect to importation of LNG do not exist with Cabrillo Port.

B. BHPB's Environmentally Friendly Choice: Closed Loop Re-gasification

Cabrillo Port has indicated that it will use a closed loop re-gasification system utilizing submerged combustion vaporizers (SCV) instead of seawater. An open loop vaporizing system uses an enormous amount of seawater to warm the liquid gas back into natural gas. The practice of using an open loop re-gasification process raises concerns to the environment such as a threat to the marine life by entrainment and impingement of fish larvae and eggs through the seawater intake system. It has also been heavily reported that open loop systems negatively impact marine life by creating thermal plumes, turbidity, treatment of discharge water, and noise. Recently, Louisiana Governor Kathleen Blanco sent notification to the Maritime Administration exercising her veto authority over the Freeport MacMoRan deepwater port based in large part on the company's refusal to utilize closed loop re-gasification technology²⁸. Alabama Governor Bob Riley, adjacent state stakeholder, immediately supported Governor Blanco's denial of the LNG deepwater port license.²⁹

Cabrillo Port will not be taking the same approach as Freeport MacMoRan. Instead, BHP Billiton will utilize the closed loop system to re-gasify the LNG by passing it through pipes which are submerged in a heated water bath. The water bath is warmed by natural gas-powered heaters, and the combustion exhaust bubbles through the hot water bath. The submerged combustion vaporizer's waste water discharge results from the

condensing of water vapor in the water bath. The pH of the waste water would be controlled well within the acceptable range of units, and the water bath itself would be maintained at 86 degrees Fahrenheit. It's worth noting that the excess water will be utilized onboard for ballast water, instead of discharging it to the open sea. The Environmental Protection Agency agrees that the use of BHP Billiton's SCV technology is far better than the open loop system³⁰. Therefore, it is unequivocal that BHP has made an environmentally responsible corporate decision by committing to use a closed loop re-gasification process.

C. Cabrillo Port's Environmentally Friendly Choice:

Clean LNG as Fuel Source for Tug and Supply Boat Vessels

BHP Billiton's Cabrillo Port Project indicates that it will use Dual Fuel Marine Engines for its tug and supply boats servicing its FSRU. Dual fuel engines are capable of operating on natural gas as its primary fuel source, which is a much cleaner burning fuel than diesel or bunker oil commonly used in marine vessels, and dramatically reduces air pollution. This is a significant environmentally friendly investment and BHP Billiton should be commended.

Utilizing natural gas as the fuel source on supply/cargo vessels results in a 75% reduction in the emissions of NOx, a major component of smog, and a 30% reduction in CO2 (carbon dioxide). Tests have shown that the supply/cargo vessels have a fuel economy rate of 30% or better utilizing natural gas than that of diesel.

In order to use gas as a fuel, safety is the main priority and an important aspect in the design of the vessels. For instance, a leading designer of LNG powered vessels divides the engine system into fire-proof and explosion-proof zones. The LNG is stored in a vacuum insulated tank that is built as a pressure vessel and a vaporizer with a built-in coil pressurizing the tank. To minimize fuel consumption and minimize greenhouse gases, one of the LNG fueled vessels uses KONGSBERG Simrad's new GreenDP system, which features predictive control logic instead of reactive control for an improved thruster use of 20% as well as a reduction in fuel consumption and greenhouse gasses. It also results in a 50% to 80% reduction in power variations.

The Marine Engineers' Beneficial Association has the personnel and training capability to make sure these vessels are safely constructed, operated and maintained.

D. BHPB's Environmental Commitment to Safe and Secure

Handling of Waste Water Discharge

BHP Billiton will safely monitor and control the discharge of waste water that is generated at the LNG import terminal. Many of concerns were voiced regarding the following types of discharge during the April 2006 public meetings held in Malibu and Oxnard. The scare over the waste water discharge has now been addressed. It is not new or untested technology being used to control and monitor the waste water. Indeed, nearly every ocean-going ship uses the following types of systems.

SCV waste water: This is the waste water that would be generated by the closed loop re-gasification process on FSRU. The waste water would not be discharged directly from the water bath to the ocean. Instead more than 95% of the bath water would be combined with seawater and sent to the FSRU ballast tanks as the storage tanks empty the natural gas into to pipeline destined for California markets. When LNG carriers arrive at the FSRU and begin discharging the LNG, ballast water, including the SCV waste water would be discharged at a controlled rate based on how fast the LNG would be sent to the Unit. Any remaining SCV waste water would be treated and stored in fresh water storage tanks onboard the FSRU and could be used for washing the decks or to supplement the FSRU supply of potable (drinkable) water.

Ballast Water Discharge: There will be approximately 30 million gallons of ballast water discharged per week. The SCV waste water will be less than 5% of the total discharge. There will be no additives added to the discharge. With respect to the LNG carriers, no ballast should be discharged in the range of the FSRU because the vessels will be arriving fully loaded with LNG. Therefore, as the carrier discharges the LNG to the FSRU it will be only taking on ballast water. This is the normal and customary practice and is nothing new to the industry.

Deck Drainage: Deck drainage consists of rain water run off and deck wash down water from the FSRU. In the event general maintenance of machinery and other equipment on deck produces any oil residue, the liquids would be collected around the machinery and sent through an oily water separator before being discharged into the ocean. The oily water separator separates the oil from the water and sends the oil to a slop/sludge tank instead of over the side. The procedure outlined here is customary on vessels that remain in port for long periods of time or are docked at ports indefinitely.

Gray Water: This is the general waste generated from the wash water. Wash water is used for showers, in sinks and in the galley. The discharge of the gray water is treated by using a filtration system to remove particulate matter and UV oxidation to control dissolved organic materials. Filtration and UV oxidation is the commonly well-accepted practice for handling gray water.

Sanitary Wastes: This refers to human body waste discharged from toilets and urinals located on the facility. The discharge is planned to be treated in a marine sanitation device (MSD tank) approved by the U.S. Coast Guard prior to discharge. Any residual solids or non-dischargeable wastes can be sent ashore to a waste receiving facility. The handling of sanitary waste on vessels or structures that operate close to shore is nothing new as cruise ships use this technology.

Desalination Unit Wastes: This discharge is brine generated from the process of creating fresh water from saltwater through means such as evaporators. Again this is not new or unique, every ship on the ocean uses evaporators and desalination devices.

Non-contact Cooling Water: This is seawater which circulates across power generators for the purpose of cooling. Standard marine type anti-fouling additives (such

as hypochlorite, or similar additives commonly used in marine vessels) would be added to the cooling water intake for circulation prior to discharge. This is not new or unique, in fact every ocean going vessel that plies the ocean uses non-contact cooling water as a source cooling even when the vessel is in port.

Fire Control system Test Water: This is seawater which is discharged during the testing of fire protection equipment. No additives (such as anti-fouling agents) would be added to the test water prior to the discharge. This is simply sea water in and sea water out. The fire system is supplied water from a fire pump that pulls sea water directly from the ocean and during testing the fire hoses are aimed over the side where the sea water is sprayed directly back into the ocean.

Bilge Water: This is water which may accumulate in the bilge of the facility from sources such as leaks in the cooling system or wash-down operations. Like deck drainage potentially contaminated with oil, bilge water discharge would be continuously monitored for oil and treated in the oil/water separator prior to discharge if found to be contaminated. As a result of OPA-90 (and even prior), nearly every ship on the ocean is required by U.S. and/or International Law is required to use oily water separators. This is nothing new.

**E. Floating Storage and Re-Gasification Unit (FRSRU) Technology:
Comprised of Proven Components of Maritime Technology**

For all intents and purposes, BHP's re-gasification plant is a stationary ship. The only difference between a ship and a re-gasification plant is that a ship has a propulsion system that allows it to move from point "A" to point "B." The similarities between an LNG ship and Cabrillo Port's re-gasification plant are nearly identical. Just like sailing aboard an LNG vessel, there will be a watch rotation that covers the FSRU 24 hours per day and 7 days per week. Here, BHP's re-gasification plant would be approximately 20 miles from Oxnard and approximately 14 miles from the nearest land fall. On board LNG vessels there is marine-type machinery and equipment associated with the transportation of LNG in order to keep the natural gas in liquid form (benign state). On this FSRU plant there would be marine type machinery and equipment that will convert the liquid natural gas back into natural gas; and as stated in the section above, all waste water and discharge components would be comprised of well-established marine machinery and components. It must be understood understand that as an advanced LNG re-gasification plant, Cabrillo Port will feature state-of-the-art facilities and proven technology with natural gas used instead of solely diesel machinery to power the entire facility in order to minimize emissions locally and internationally.

**XI. Environmental Groups Not Opposed to LNG:
Opposed to Open Loop; Close Proximity to Population Centers**

Many environmental groups have opposed LNG import terminals throughout the United States, but the main reasons for opposition are the use of open loop re-gasification systems and the proposed location of import terminals to populated communities. BHP Billiton does not have these problems.

For instance, in Connecticut, Washington Gas proposes constructing a 12 million gallon LNG tank in a densely populated area. The environmental group, Sierra Club, opposed the LNG storage tank on March 30, 2006. “We are not opposed to LNG as an energy source,” said the Sierra Club’s Megan Lewis. “We are against it because of its location in the middle of a residential area.” Unlike Washington Gas, Cabrillo Port’s LNG storage tanks will be located some fourteen (14) miles away from the nearest population of people.

In Louisiana an environmental group calling itself the Gumbo Alliance opposes a slew of proposed open loop terminals because of the threat they pose to Gulf marine life. In March of 2006, the 5th Circuit Court of Appeal in New Orleans heard a landmark case challenging a federal permit for a Liquefied Natural Gas terminal 38 miles off the coast of Cameron Parish. The suit — filed by the Gulf Restoration Network, the Sierra Club and the Louisiana Charter Boat Association — contends that the environmental impacts of the \$700 million Gulf Landing terminal project were not properly considered. The coalition claims it is not opposed to the LNG terminal being built but insists it should be required to use a closed loop system to reheat the imported gas. Again, BHP Billiton is not using an open loop system, it has opted for the environmentally friendly closed loop re-gasification process.

In Mississippi, Louie Miller, State Director of the Sierra Club, is not opposed to all LNG ports. However, he does oppose offshore “open loop” LNG terminals that propose using millions of gallons of seawater per day to heat up the LNG so it can be transported as gas in pipelines. The open loop system could result in major negative impacts to aquatic life in the already troubled Gulf of Mexico, states Mr. Miller. If that is the case then the Sierra Club should be supporting in some fashion Cabrillo Port because BHP proposes using a closed loop system.

XII. United States Maritime Administration Encourages Use of U.S. Mariner Citizens Throughout the Project

In accordance with Section 4.2.7.3 of the Revised Draft EIR, the U.S. Maritime Administration (MARAD) encourages the employment of U.S. citizens throughout BHP Billiton’s proposed Cabrillo Port Project. Under separate authority, MARAD educates and trains future merchant marine officers for various employment opportunities within the maritime industry. MARAD operates the U.S. Merchant Marine Academy and provides financial support to six state maritime academies, including the California State University Maritime Academy at Vallejo. All seven maritime academies have indicated a strong interest in expanding their curricula to include course work focused on the unique demands of the LNG trade.

XIII. Congressional Policy Supports the Use of U.S. Merchant Mariners on LNG Vessels

As the U.S. Congress is now recognizing, there is a need for strong involvement of the U.S. Merchant Marine in the LNG trade entering the United States. In the near future, Congress will be voting on final passage of the fiscal year 2006 Coast Guard Authorization bill. Congressman Frank LoBiondo submitted the Conference Report on H.R. 889, the Coast Guard and Maritime Transportation Act of 2006 on April 6, 2006.

That bill includes a provision on liquefied natural gas. It first requires the Secretary of Transportation to develop and implement a program to promote the transportation of LNG to the United States on US-Flag vessels, with US officers. It also amends the Deepwater Port Act to give top priority to all applications for deepwater LNG import terminals that intend to be supplied with LNG by US-Flag vessels with US officers. Finally, it also requires that all applications for deepwater LNG import terminals specify the flag of the vessels and the nationality of the officers and crew that will be used to import the gas into the United States. These provisions are a first step in addressing the critical importance of crewing vessels carrying security-sensitive cargo. We urge the U.S. Coast Guard and Maritime Administration, should they approve the license application, that conditions be placed to promote the use of U.S. Mariners in the safe and secure movement of LNG.

MEBA is willing to meet and discuss with any and all interested parties in order to ensure that liquefied natural gas is safely, securely and economically transported to the United States. I can be reached at 202-624-1658.

Respectfully,

/S/

William P. Doyle
Deputy General Counsel,
U.S. Coast Guard Licensed Marine Engineer,
Marine Engineers' Beneficial Association

cc: Honorable Cruz Bustamante
Lt. Governor, California
State Capitol, Rm. 1114
Sacramento, CA 95814

Mr. Steve Westly
California State Controller
P.O. Box 942850
Sacramento, California 94250-5872

Mr. Michael Genest
California Finance Director
915 L Street
Sacramento, CA 95814

--End Notes and Appendices attached below--

END NOTES

- ¹ Annual Energy Outlook 2005, Energy Information Administration, U.S. Department of Energy, February 2005, Table 13.
- ² Annual Energy Outlook 2005, Energy Information Administration, U.S. Department of Energy, Table 14.
- ³ Canada's Conventional Natural Gas Resources: A Status Report, National Energy Board, April 2004, pp. 9-10.
- ⁴ Jeff Wright, Chief, Energy Infrastructure Policy Group, Office of Energy Project, Federal Energy Regulatory Commission, Fall 2005.
- ⁵ See Maritime Business Strategies at: <http://www.coltoncompany.com/shipbldg/worldsbldg/gas/Ingaivefleet.htm>
- ⁶ There are only 5 diesel LNG vessels (out of the approximately 200 LNG vessels in the world's fleet) operating at this time because these straight diesel vessels do not have the capability to store/handle more than slight quantity of LNG boil-off gas. Therefore, these current diesel vessels are designed for short voyages of not more than three days. Indeed, the current LNG diesel vessels operate in the Japanese domestic trade, coastal Norway, and the Algeria-Greece trade route. The world LNG fleet is expected to reach approximately 350 vessels by the end of 2010.
- ⁷ Regardless of the future, steam propulsion LNG vessels will be the overwhelming majority of the world's LNG fleet. Steam is the known, long standing and proven technology. LNG vessels have a life span like no other ships with a life span up to 45-50 years. Straight diesel (D) vessels are rare because there is nowhere to store the boil-off gas from the LNG. Thus, the diesel vessels can only operate short distances (usually 2-3 day max journey) in order to ensure there is not enough time for the LNG to start warming in significant enough amounts to worry about where to store the boil off gas. Diesel Re-liquefaction (DRL) LNG vessels are diesel propelled ships that encompass a re-liquefaction plant onboard the ship. There are no DRL vessels operating at this time. This is very new technology and the industry is having trouble with the DRL concept because the LNG carrying capacity of the vessels need a larger cargo carrying capacity than originally planned in order to recoup the costs of the system. The re-liquefaction equipment must contend with the boil off gas by re-cooling it to -261 degrees Fahrenheit (to its liquid state) and then send it back to the LNG cargo tanks. This uses an enormous amount of energy. Dual Fuel Diesel Electric Engines (DFDE) is another source. These vessels operate partly on boil-off gas and partly on oil fuels. Dual Fuel Engines do not run well on heavy oil, so MDO (expensive) is the second choice of fuel after boil-off. The first DFDE LNG carrier was supposed to be operating by now but it has failed sea trials and not necessarily because of the propulsion system.
- ⁸ "The Current State of Japanese Shipping" March, 2004, PDF file at <http://www.jsanet.or.jp/e/shipping-e/index.html>, p.29
- ⁹ *Shaking the Tree*, Fairplay International Shipping Weekly, September 1, 2005.
- ¹⁰ Id.
- ¹¹ *Poaching War for Crews Erupts*, Fairplay International Shipping Weekly, February 24, 2005.
- ¹² Id.
- ¹³ SIGTTO News, September 2005, p.5.
- ¹⁴ *Poaching War for Crews Erupts*, Fairplay International Shipping Weekly, February 24, 2005.
- ¹⁵ *Near Calamities in Cargo Operations*, Fairplay International Shipping Weekly, December 1, 2005.
- ¹⁶ *Poaching War for Crews Erupts*, Fairplay International Shipping Weekly, February 24, 2005.
- ¹⁷ *LNG Crewing Shock*, Tradewinds, February 25, 2005
- ¹⁸ *Philippines Dangles \$18,000 Carrot*, Tradewinds, January 9, 2006; See also, *LNG Wage Anger*, Tradewinds, November 4, 2005; *Officer on \$320,000 a year, claims Sigitto*, Tradewinds, November 4, 2005.
- ¹⁹ Tradewinds, Insurers Get LNG Jitters, LNG Ships Facing Premiums Boost, March 17, 2006
- ²⁰ Id.
- ²¹ Id.
- ²² Id.
- ²³ *Modern Seafaring Can Kill You*, Fairplay International Shipping Weekly, April 20, 2006
- ²⁴ *Foreign Flag Vessels May Bring Down LNG Import Costs*, The Hindu Business Line, December 13, 2005.

²⁵ *The Coast Journal of Safety at Sea PROCEEDINGS of the Marine Safety & Security Council*, pp 50-51.

²⁶ *F For Filipino Failure*, *TradeWinds*, April 21, 2006

²⁷ For more information on courses offered at Calhoon MEBA Training School visit:
<http://www.mebaschool.org/curriculum?SESS=6b54d20389ff11036783d8685ac6787b&time=1146064916>

²⁸ See May 5, 2006, press release from Louisiana Governor Kathleen Blanco at:
<http://www.gov.state.la.us/index.cfm?md=newsroom&tmp=detail&articleID=1840>

²⁹ See Alabama Governor Bob Riley's May 5, 2006 statement of support for vetoing open loop technology at: http://www.governorpress.alabama.gov/pr/pr-2006-05-05-01-lng_terminal.asp

³⁰ Fact Sheet, U.S. Environmental Protection Agency, Region 9; National Pollution Discharge Elimination System (NPDES), Permit No. CA0110993, BHP Billiton LNG International Inc., Cabrillo Port Project, April 18, 2006, p. 6-7.

From: wdoyle@d1meba.org [mailto:wdoyle@d1meba.org]
Sent: Tuesday, April 11, 2006 7:57 AM
To: Kusano, Ken LT
Subject: MEBA to Support BHP's Cabrillo Port Project

Greeting Lt. Kusano,

I am Bill Doyle, Deputy General Counsel of Marine Engineers' Beneficial Association (MEBA) and a U.S. Coast Guard Licensed Marine Engineer. Attached is a press release MEBA distributed yesterday. I plan on attending the public hearings next week regarding BHP Billiton's Cabrillo Port project and will be bringing members- - Officers in Merchant Marine- - who will provide testimony. See link and attached <http://biz.yahoo.com/prnews/060410/sfm061.html?.v=46> .

Sincerely,

William P. Doyle

G019-1

Thank you for the information. Your statement is included in the public record and will be taken into account by decision-makers when they consider the proposed Project.

G019-1

FOR IMMEDIATE RELEASE
Media Contact: William Doyle

April 10, 2006
202-624-1656

LEADING MARINE ENGINEERS' ASSOCIATION WILL SUPPORT
BHP BILLITON'S CABRILLO PORT PROJECT

Marine Engineers' Beneficial Association calls project
"Best option for America's security requirements and energy needs"

Ron Davis, President, Washington, DC
Bud Jacque, Executive Vice-President, San Francisco, CA
Al Camelio, Agent, Los Angeles, CA

San Pedro, CA.: Calling the venture "an essential energy development that requires the most highly skilled and trained personnel," the Marine Engineers' Beneficial Association (MEBA) has announced its endorsement of a proposal by BHP Billiton (BHP) to construct a liquefied natural gas (LNG) facility approximately 20 miles off the coast of Oxnard, California.

"We believe that BHP is committed to enhancing America's national energy security and protecting its local safety needs. After careful consideration and thorough review of the most significant safety and environmental considerations, our organization has decided to support the Cabrillo Port LNG project and we urge its approval by state and federal policymakers," said Ron Davis, President of MEBA, which represents U.S. Coast Guard licensed marine officers who work on freight, tanker and passenger vessels engaged in both domestic and international trade.

Using LNG carriers, BHP proposes to supply natural gas from Australia's northwest shelf and deliver it to a state-of-the-art facility (a Floating Storage and Re-gasification Unit or FSRU) located offshore that will connect to new and existing natural gas pipelines. The offshore facility will use industry-leading technology and be located approximately 20 miles from the nearest major population center.

"BHP recognizes the critical need to help guard against security threats to protect the very markets that it intends to service, and we believe it is committed to fulfilling this critical objective using US Coast Guard Licensed and certified (credentialed) mariners, all of whom are highly trained and skilled professionals who represent a largely untapped vital source of labor in an international LNG market that is otherwise suffering from a severe shortage of qualified mariners," said Davis.

MEBA added that because the Cabrillo Port project is located far from both the shore and international shipping lanes, it has unique safety characteristics not shared by other LNG projects under consideration throughout the United States. The organization added, however, while Cabrillo Port's geographic security advantages are considerable, additional steps must be taken, specifically requiring that U.S. Coast Guard Licensed and credentialed mariners on-board the LNG carriers and working aboard the FSRU.

“The best way to ensure the safest and most secure means to prevent breaches of national security affecting our country’s import of LNG to West Coast markets is with U.S. Coast Guard Licensed Officers and credentialed merchant mariners on the vessels and receiving FSRU terminals. Our Officers have well over twenty years’ experience working as licensed deck and engine officers aboard LNG carriers. There is simply no legitimate alternative,” said Davis.

LNG carriers are highly specialized ships that transport liquid natural gas from on-shore facilities to markets around the world. Given America’s significant energy demands – particularly on the West Coast – a consensus is emerging that the nation’s energy interests are increasingly and significantly dependent upon a steady, dependable supply of natural gas. “Indeed, the 2005 Energy Action Plan of the California Energy Commission and California Public Utilities Commission states that the state must promote infrastructure enhancements and diversify supply sources to include LNG,” said Bud Jacque. In light of the California’s market needs, several international energy companies have applied for state and federal approval to supply LNG to our communities.

“From an economic perspective, BHP’s off-shore receiving facility is uniquely positioned to compliment California’s port operations. In contrast, many have concluded that LNG projects predicated on land-based receiving facilities would disrupt port traffic and cargo operations, because of the complex requirements related to the safe transit of the LNG carriers and safe discharge of the gas,” said Al Camelio.

“BHP’s offshore facility avoids these costly and disruptive problems, and is also environmentally cleaner and discharge far less emissions than traditional cargo ships currently calling in California ports,” said Davis. “Also, state and Federal regulators have held BHP’s Cabrillo Port project to very high standards, and the company has responded by incorporating important technology, environmental and personnel safeguards and standards, that the other California projects have failed to match,” said Davis.

“Our members have decades of experience working as licensed deck and engine officers aboard LNG carriers, and also undergo and pass stringent Coast Guard and FBI background checks that foreign crewed vessels – many from third-world countries – do not submit to. The bottom line is this: Cabrillo Port is a good idea and having experienced and certified U.S. Coast Guard Merchant Officers and Mariners involved every step of the way is integral in making it safe, secure and a success for California.”

18 APR 06

V214-1

Thank you for the information.

MALIBU EIR CABRILLO PORT
RE: REVISED EIR (DRAFT)

I serve AS DEPUTY GENERAL COUNSEL
TO THE MARINE ENGINEERS' BENEFICIAL
ASSOCIATION (MEBA) AFL-CIO

MEBA WILL BE SUBMITTING EXTENSIVE
COMMENTS REGARDING SECTIONS TO
INCLUDE SECS 4.2.7.3 AND 4.3.1.5.
THE EXTENSIVE WRITTEN COMMENTS WILL
BE SUBMITTED BY MAY 12, 2006.

V214-1

NONE OF THE SPEAKERS FROM THE
MARINE ENGINEERS' BENEFICIAL ASSOC.
HAVE BEEN PAID AS CONSULTANTS BY
BHP, BILLITON OR PAID IN ANY WAY.

MEBA OFFICERS ARE EXPERTS IN
THE TRANSPORTATION OF LNG; ITS
HANDLING; DISCHARGE; STORAGE; INTAKE.
MEBA HAS TESTIFIED HERE TONIGHT OUT
OF CONCERN FOR SAFETY & SECURITY.

Respectfully
William P. Doyle
William P. Doyle

From: Dennis Drissi [drissi@juno.com]
Sent: Thursday, May 11, 2006 5:04 AM
To: BHPRevisedDEIR@slc.ca.gov
Subject: Attn:Sanders/Cabrillo Port LNG/Comments/Clearinghouse # 2004021107

Attn: Dwight E Sanders
 CA State Land Commission
 RE: Comments on BHP Cabrillo Port
 State Clearinghouse # 2004021107

We're opposed to BHP Billiton's Cabrillo Port LNG. We live in an unescorted beach area, 12 miles from the proposed project, called Silverstrand Beach/Hollywood by the Sea. We border City of Oxnard, Port Hueneme, and Oxnard's Channel Islands Harbor. Areas by the beach are high in density plus the live aboard in the harbor. Channel Islands Harbor is a recreational harbor (www.channelislands harbor.org) that offers Sports Fishing, Kayaking, Scuba, Sailing, Yacht Racing, Whale Watching, excursions to the Channel Islands National Park (Anacapa, Santa Cruz, Santa Rosa, and San Miguel Islands). The islands host the "Channel Island Laboratory" for grad students and research associates. With the help of the U.S. Fish and Wildlife Service, Calif. Dept of Fish and Game, the Institute for Wildlife saw 2 eagle chicks hatch (4/12/2006) on Santa Cruz Island for the first time in 50 years. On May 5th, a third eagle chick hatched. The California Department of Boating and Waterways is funding two thirds of the \$6.2 million in construction of the "Boating Instruction and Safety Center" in the harbor. These are just a few things that the Cabrillo Port Project will affect. Air pollution to the islands will affect the endangered animals and plant species. BHP Billiton's weather stats were taken from an area miles to the north of us. We're a south facing beach and have many days of Santa Ana Wind conditions blowing from the sea to land. All burning fossil fuel pollutants will affect our air quality. From the ships that haul the LNG and the ships that escort them in.

BHP Billiton boasts its safety record. How can a safety record come into play when this is a first time endeavor of this type of LNG delivery? BHP Billiton is a staunch, anti-union company that hires contract workers. This protects them from liabilities and they won't be liable if anything affects the City of Oxnard and surrounding areas. Disruptions with Union Workers, Country Laws, etc could affect the company's performance. BHP Billiton's full page newspaper ads were misleading. They exaggerate the shortage of natural gas. They made people believe that the LNG being piped under our feet is going to our heaters and stoves. They don't mention that the LNG is being piped, trucked, transported by train, etc to the highest bidder in any State. BHP Billiton played the "Friendly Country of Australia". Australia being an ally with America against the war on terrorism. This has nothing to do with Australia. BHP Billiton is just a company for profit. It's profitable for them to use cheap labor, ship their product from over seas, and sell it at the going rate. Much like the tennis shoes we wear, shirts, or televisions we watch. What really concerns me is if there was an accident. I didn't say terrorism, tsunami, or earthquake. Just an everyday industrial accident. In November 2004 there was a gas leak on Platform Gail, 9 miles off the coast. An evacuation of 39 workers had to be rescued while fifteen workers remained to fix the leak. This strained our local emergency services which included the Ventura County Sheriff Dept, Sheriff's helicopter, Oxnard Police Dept, Gold Coast Ambulance, Harbor Patrol, Auxiliary Coast Guard and copter, and a ship from the Navy that happened to be in port. (FYI the Auxiliary Coast Guard Station is adjacent on the only street out of our beach community). Is BHP Billiton going to contribute

P061-1

Your statement is included in the public record and will be taken into account by decision-makers when they consider the proposed Project.

P061-2

Sections 4.16, 4.7, and 4.8 contain information on impacts on recreation and biological resources. The Project has been modified since issuance of the March 2006 Revised Draft EIR. See Section 1.4.2 for a summary of Project changes. Section 4.6.1.3 contains revised information on Project emissions and proposed control measures. Section 4.6.4 discusses the health effects attributed to air pollutants and includes revised impacts and mitigation measures.

| P061-1

| P061-2

P061-3

The Applicant is required to adhere to all applicable Federal, State, and local laws, regulations, and permit requirements in the execution of all phases of the Project. Section 4.2.6 states, "The environmental and occupational safety record for the Applicant's worldwide operations, including, for example, mining ventures overseas, was not considered in evaluating potential public safety concerns associated with this Project because such operations are not directly comparable to the processes in the proposed Project." The conclusions in the EIS/EIR are based on the analyses of potential environmental impacts of the proposed Project and the implementation assumptions stated in Section 4.1.7. However, the Applicant's safety and environmental record will be taken into account by decision-makers when they consider the proposed Project.

| P061-3

| P061-4

| P061-5

P061-4

The lead agencies are obligated to use energy forecasting information from the Federal Energy Information Administration (EIA) and the California Energy Commission (CEC). As discussed in Section 1.2.2, the Federal EIA is a "primary source of the data on the Federal energy forecasts and analyses used in this document. The EIA, created by Congress in 1977, is part of the U.S. Department of Energy. The EIA provides policy independent data, forecasts, and analyses to promote sound policy-making, efficient markets, and public understanding regarding energy and its interaction with the economy and the environment." In addition, Section 1.2.3 discusses the use of CEC data. The CEC's 2005 Integrated Energy Policy Report Committee Final Report provides the energy context for California's natural gas needs. The California Legislature recognizes that the CEC is the State's principal energy policy and planning organization and that the CEC is responsible

| P061-6

for determining the energy needs of California. These responsibilities are established in State law (the Warren-Alquist State Energy Resources Conservation and Development Act [Public Resources Code, Division 15]).

The revisions to Chapter 3 elaborate on the previous analyses. As discussed in Section 3.3.1, "[t]he MARAD and the CSLC do not have authority to initiate or implement additional broad-based, long-term energy conservation policy measures... They also do not have control over whether such measures will be proposed, approved, and implemented, or the time frame over which these actions might occur."

With respect to retrofitting of existing power plants, "[t]he State of California's 2005 Energy Action Plan II indicates that despite energy-efficient renewable resources, other energy sources, and investments in conventional power plants such as augmenting existing facilities and replacing aging infrastructure, there is no indication that the need to increase California's short-term natural gas supplies can be averted through turbine repowering (CEC and CPUC 2005). The State's determination of the need for additional natural gas supplies takes into account the re-powering of existing power plants and still concludes that new gas supplies are needed." See Section 3.3.3.

P061-5

LNG would be regasified offshore. No LNG would be in the onshore pipelines.

P061-6

Section 4.2.5 contains information on liability in case of an accident and reimbursement for local agencies.

monies/taxes for the extra staffing and equipment these departments are going to need should an accident occur? Can our local hospitals handle an accident? I haven't heard anything about BHP Billiton conducting "Emergency Training Exercises". This area is not ready for a medium to large emergency. Evacuation from the beach areas is futile. When Air Alaska Flight 261 nose dived 10 miles off shore here in January 31, 2000, we were land locked. With emergency agencies, NTSB, and the media, there was no way out. It would have been worse if there were survivors of the crash.

We didn't plan the gas leak or the tragic airline crash, but to have a 24/7 Gas Station that takes 12-15 hours to unload in our front yard? It doesn't make sense.

Thank you, Dennis and Vicky Drissi

DENNIS DRISSI
288 Highland Drive
Oxnard, CA 93035
(805) 985-0509

P061-6
Continued

P061-6 Continued

P061-7

P061-7

As discussed in Section 4.2.7.6 and the Independent Risk Assessment (Appendix C1), consequences of an accident involving LNG transport by carrier and storage on the FSRU would extend no closer than 5.7 nautical miles (6.5 miles) from the shoreline. Section 4.2.8.2 addresses onshore pipeline regulations and impacts, including emergency planning and response.

To view the responses to this letter, go to "Index--Read this First" and select "2006 Letters--Form Letter."

April 19, 2006

Dwight Sanders
State lands commission,
100 Howe Avenue
Suite 100 South
Sacramento California 95825-8202

Re: Stop Cabrillo Port LNG

Dear Mr. Sanders,

Please stop Cabrillo port LNG industrial plant from progressing any further in the permit process. California law prohibits industrial intrusion on highly scenic areas. The last remaining wild areas on the Southern California Coast will be permanently despoiled if this industrial plant is installed. In fact over 10 national parks, national recreation areas, state, city and county parks will be despoiled. This would forever impact the quality of life of the areas residents and negatively impact the millions of visitors who come to hike and enjoy the seashore. In addition, federal and state governments own studies show that this project would:

- result in both short term and long term adverse impacts to the coast and it's residents.
- Increase smog levels (tons of pollutants spewing directly upwind from our houses, beaches and hiking trails.
- contain 14 story high pollution spewing industrial towers with lines of support ships which forever will be our new horizon. This towers will be brightly lit at night being a 24 hour eye sore .
- harbor the possibility of a 14 mile wide explosive flash fire due to an accident of terrorist attack.
- be visible from all elevations in malibu from downtown Malibu all the way to Port Hueneme.
- require a "security zone" of 2.3 miles around it. (to protect from terrorism, accidents etc) which is in the same shipping channel where 10,000. container ships and oil tankers use annually.

There are many more negative impacts than the above "official" ones disclosed by the federal and state study.

PLEASE do not allow this to go forward. We, the citizens of Southern California will fight this project until it is derailed. Our money and time can be spent on projects that truly will improve the quality of life in Southern California rather than just provide an opportunity for foreign Companies to sell us gas that they and we do not need.

Sincerely,

Minnie Irvine
28128 P.C.H
Malibu Ca 90265

From: Colette [cjay3@cox.net]
Sent: Sunday, May 07, 2006 9:20 PM
To: BHPRevisedDEIR@slc.ca.gov
Subject: LNG Terminal

V047-1

Your statement is included in the public record and will be taken into account by decision-makers when they consider the proposed Project.

Just say "no" to BHP Billiton's polluting and unnecessary LNG terminal.

V047-1

Thank you.

C J Dupont
La Mesa, CA 91941